



Derby City Express 2008

Digitrax DT100R/DT300R/DT400R Throttles

Summary Operating Instructions

These pages provide summary operating instructions and helpful hints for the Digitrax DT100R, DT300R and DT400R throttles that will be used on the Red Line Route at Derby City Express. Operation of DT100, DT200, DT300 and DT400 tethered throttles is similar. If you are not sure how to do something with the throttle you are using refer to these pages for help.



DT100R



DT300R



DT400R

General Information

The following information on the use of Digitrax DTxxxR throttles will provide improved performance and radio signal reception.

Throttle Knob Movements

When operating in the radio mode, throttle knob tracking will feel slightly different than when connected to LocoNet. *When in the radio mode, slow movement of the throttle knob will result in improved response.* It will also provide less congestion to the radio receivers and LocoNet.

Throttle Orientation

The optimum orientation to hold the DTxxxR in normal usage is from

horizontal to 30° upward in a natural hand position about 12" out from your body. This gives the best radio coverage. Although there are several radio receivers located in and about the layout, occasionally wiring, metal plumbing, HVAC ducting and other items may cause small areas of poor radio reception. **Moving about 6" – 24" in any direction or varying the orientation of the DTxxxR will typically overcome any dropouts.**

Display Power Down

If an untethered DTxxxR throttle detects no user throttle activity for about 3 minutes, it will enter Power Saver Mode and display r-PS on the display until a throttle or button action restores normal activity and displays. If the DTxxxR has a locomotive assigned to it and is in Power Saver Mode, it will continue to "check in" with the system every 60 seconds telling the system "I'm still here." This keeps the system from releasing the locomotive back to "common." **The easiest and fastest way to signal the DTxxxR to exit from Power Saver Mode is to hold down either the + or – button.**

Throttle Operations

Select Locomotive to Drive

DT100R Throttle	DT300R Throttle	DT400R Throttle
<ul style="list-style-type: none"> DT100R must be connected to LocoNet. Turn desired throttle knob at least ¼ turn in either direction until display shows SE:L-. To select 2-Digit Address, press SEL/SET. Display shows 00:03 with "00" flashing. Turn either throttle knob until desired locomotive address appears on display. Press SEL/SET to set address active. To select 4-Digit Address, press and hold SEL/SET then turn one throttle knob. DT100R enters 4-digit address range & RED EXP indicator lights. Select 4-digit address (left knob changes in hundreds, right in units). Press SEL/SET to set address active. 	<ul style="list-style-type: none"> DT300R must be connected to LocoNet. Turn desired throttle knob at least ¼ turn in either direction or press down on knob. Press SEL/SET; Loco icon flashes. To select 2-Digit Address turn left throttle knob so "00" appears in display, then use right knob to dial up desired address. Press SEL/SET to set address active. To select 4-Digit Address use left throttle knob to dial up first 2 digits (1000's & 100's) & right knob to dial up last two digits (10's & 1's). Press SEL/SET to set address active. 	<ul style="list-style-type: none"> DT400R must be connected to LocoNet. Turn desired throttle knob at least ¼ turn in either direction. Press LOCO. Display shows SEL under activated knob. Use the numeric keypad to enter the desired address (either 2-digit or 4-digit) Press LOCO to select the address. The loco icon associated with the throttle knob shows a direction arrow and blinking smoke. The blinking smoke indicates which throttle knob is associated with the top line of the display.

Controlling Lights and Functions

DT100R Throttle	DT300R Throttle	DT400R Throttle
<ul style="list-style-type: none"> Press FUNC/F0 to get to Light/Function mode for display active throttle. Display shows Fn:00 with n flashing to indicate the function number of desired function needs to be selected. Use one of five BLUE buttons to choose desired function. FUNC/F0 controls lights. Pressing FUNC/F0 toggles light from off (F0:of) to on (F0:on) to off, etc. Operation is the same for other functions F1, F2, F3, F4. To access functions F5–F7 press & hold FUNC/F0 while pressing the BLUE F5, F6, F7 or F8 buttons to toggle between on & off. Adjust either throttle to return to Loco mode. 	<ul style="list-style-type: none"> Press FUNC/F0 button to get to Light/Function mode for display active throttle. Display shows Fn:00 with n flashing to indicate the function number of desired function needs to be selected. Use one of five BLUE buttons to choose desired function. FUNC/F0 controls lights. Pressing FUNC/F0 toggles light from off (F0:of) to on (F0:on) to off, etc. Operation is the same for other functions F1, F2, F3, F4. To access functions F5–F7 press & hold FUNC/F0 while pressing the BLUE F5, F6, F7 or F8 buttons to toggle between on & off. Adjust either throttle to return to Loco mode. 	<ul style="list-style-type: none"> Ensure the throttle knob to be used is in normal function mode, as it is during normal locomotive operations. If not sure press FUNC. For the light function (F0) press the LAMP 0 button to toggle F0 on and off. For functions 1–12 press the button on the numeric keypad that corresponds with the desired function to be turned on/off. Note that F2 is a non-latching function and only is on as long as button 2 is held down. To latch F2 hold down button 2 then press the PWR button then release both simultaneously.

Locomotive Speed and Direction Control

DT100R Throttle	DT300R Throttle	DT400R Throttle
<ul style="list-style-type: none"> Turn throttle knob for locomotive whose speed is to be changed. UP/+ & DOWN/- can also be used. With 2-digit address speed is shown on right side of display. With 4-digit address speed flashes up as SP:XX. Display will return to 4-digit address. To change direction press c/R for right throttle knob or L/t for left throttle knob. Direction indicator changes color (to RED for reverse or GREEN for forward.) 	<ul style="list-style-type: none"> Turn throttle knob for locomotive whose speed is to be changed. Y+ & N- buttons can also be used. % of full speed will be displayed in text line of display on the L or R side depending on throttle knob that is controlling locomotive. % of full speed is also displayed on bar graph above the text area in the display. To change direction double click the Throttle Knob controlling locomotive or press the L or R Reverse button. 	<ul style="list-style-type: none"> Turn throttle knob for locomotive whose speed is to be changed. The Y+ and N- buttons can also be used. % of full speed will be displayed in text line of display on the L or R side depending on throttle knob that is controlling locomotive. % of full speed is also displayed on bar graph above the text area in the display. To change direction double click the Throttle Knob controlling locomotive or press the L or R Reverse button.

Dispatching/Releasing an Address from a Throttle

DT100R Throttle	DT300R Throttle	DT400R Throttle
<ul style="list-style-type: none"> DT100R must be connected to LocoNet. Ensure the locomotive speed is 00. Press SEL/SET then MODE/DISP. DT100 LCD will show SEL. 	<ul style="list-style-type: none"> DT300R must be connected to LocoNet. Ensure the locomotive speed is 00. Press SEL then press MODE. The DT300 LCD will show SEL. 	<ul style="list-style-type: none"> DT400R must be connected to LocoNet. Ensure the locomotive speed is 00. Press LOCO then press DISP. The DT400 LCD will show SEL.
<p>Note: if the throttle is not plugged onto LocoNet when this step is carried out the address will be released from the throttle, but will not be dispatched from the system.</p>		

Consisting

The method of consisting in use at Derby City Express is either **Basic** or **Advanced** (Decoder Assisted) Consisting, which only use one memory slot per consist. **UniVersal** Consisting is *not permitted*. Basic or Advanced Consisting can be set up prior to the Convention or at the Programming Stations.

Programming

Operations Mode Programming on the layout tracks is prohibited at Derby City Express. It is too easy to make an unintentional error with Operations Mode Programming that could cause problems for another locomotive or the entire layout.

Throttle Problems and Maintenance

If you have problems with your throttle during the Convention please check the following items. If these do not solve your problem bring your throttle to the on-duty Digital Master, who will check it out.

Battery

If the throttle display goes blank immediately when the throttle is unplugged from LocoNet check to be sure the battery is installed with in the correct orientation — positive terminal to positive contact.

A good battery is key to successful operation in the radio (tetherless) mode. A battery is not needed when the throttle is plugged into LocoNet. Whatever may appear to be wrong with a throttle, the first thing to suspect is the battery. Replace the 9V battery with a new or known good battery. Try two or three batteries before deciding there is a fault with the throttle. Examples of problems caused by weak or dying batteries include:

- The throttle operates correctly when plugged into LocoNet, but you cannot control the train after it is unplugged.
- The throttle loses control of a train after a period of time.
- The throttle makes beeping noises.

Don't assume that a newly purchased battery will always be a good battery. A new battery can have a high internal resistance that prevents it from putting out sufficient voltage and/or current to operate the throttle. Always purchase batteries from a store that sells lots of batteries and therefore always has fresh batteries on hand. Batteries have a "shelf life" as they will deteriorate even if not used.

No Radio Operation

If the throttle operates correctly when connected to LocoNet but not when untethered, even after ensuring the battery is good, the problem may be that radio transmission has been turned off. Bring your throttle to the on-duty Digital Master who will check it out and make sure radio transmission is turned on.

Loose Throttle Knobs

The throttle knobs are held in place by two 0.050" screws, which can work loose over time. The screws require a 0.050" Allen wrench to tighten them. When tightening the screws, be careful not to put too much sideways pressure on the knob, as the encoder shaft can be damaged. If your throttle knob(s) gets loose bring your throttle to the on-duty Digital Master, who will have the required Allen wrench.

RJ12 Plug

There are 3 potential problems relating to the RJ12 plug on the end of the stubby LocoNet cable:

- The locking tab breaks off,
- The contacts on the plug are bent or otherwise damaged (rare), or
- The wires are not making a good connection with the contacts in the plug.

The solution to any of these problems is to replace the RJ12 plug. The on-duty Digital Master is equipped to replace your damaged RJ connector.