Digitrax Command Control

UT1 & UT2

LocoNet Utility Throttle Manual

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UT1 & UT2 LocoNet Utility Throttle Manual

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1.0 UT1 & UT2 Utility Throttle Features & Specifications

- The UT Throttles are "traditional" hand held DCC throttles. The UT Throttles are laid out with a single knob for speed control and a simple toggle switch for direction.
- Digitrax LocoNet network forms a simple, reliable interconnect between all Digitrax Command Control System components using extremely reliable and convenient gold plated RJ12 6 pin modular telephone jacks.
- Control up to 98 locomotives (97 DCC & 1 Analog)
- 128 speed step operation!
- Simple locomotive selection using two rotary selectors.
- Control directional lighting & 5 additional function outputs from the keypad. If you have locomotive equipped with sound, controls for bell & whistle are on F1 & F2. F2 is a non-latching control that allows you to sound the horn for as long as the key is held down. F2 can be configured to be non-latching.
- F3 can be configured to be momentary for remote coupler functions, etc...
- Special "DISPATCH" function to allow consists or 4 digit addresses to be operated by the UT Throttle.
- "SAFE" mode operation allows smooth pick-up and or release of trains or locomotives.
- UT1 does not have programming capabilities. UT2 can program decoder CVs 01-99.

Your success with and enjoyment of our products are very important to us. After all, this is a hobby and it is FUN!!! Please read this manual carefully before you install your system. We have included lots of hints and operating ideas based on our experience with the Digitrax system. If you have questions not covered by this manual please contact your dealer or Digitrax.

2.0 Using your UT Throttle

For operation, the UT Throttle does not need a battery. The UT Throttle will remember the last throttle settings after it is unplugged from LocoNet and will resume when it is plugged back into LocoNet.

Plug the UT Throttle into any LocoNet jack on your LocoNet system

When the UT Throttle is first connected to LocoNet all the LEDs in its display will blink on and then off again. This means that the throttle is working and is communicating as it should.

2.1 Turning On Track Power

Turn on the track power by pressing and holding the "RUN/STOP" button, then simultaneously pressing the "ON/F1" button. The command station will beep once and the "TRACK STATUS" light on the command station will come on.

2.2 Turning Off Track Power

Turn off the track power by pressing and holding the "RUN/STOP" button, then simultaneously pressing the "OFF/F2"button. The command station will beep once and the "TRACK STATUS" light on the command station will go off.

2.3 Running a Locomotive

Connect your UT Throttle to any LocoNet jack connected to the command station in your LocoNet system.

2.3.1 Run An Analog Locomotive on Address "00"

The address "00" is reserved for "Analog" locomotives or any locomotive not equipped with a decoder.

1. Place a non-decoder equipped locomotive on the track. The locomotive will make a "humming noise", this is the normal sound an analog locomotive will make on a DCC layout.
2. Select the two digit address "00" of the analog locomotive you want to run using the rotary dial selectors on the UT Throttle. The left rotary dial selects the "tens" and the right rotary dial selects the "ones".
3. Press "ACQ/DISP" to select locomotive. The "STATUS" INDICATOR should be a steady green to indicate that you now control that locomotive.
4. If the "STATUS" INDICATOR is off, the locomotive that you tried to select is already being controlled by another throttle in the system and is not available.
5. A red "STATUS" INDICATOR indicates that the direction switch is not set to the same direction as the locomotive you are trying to select. Reverse the direction toggle switch and the "STATUS" INDICATOR will turn green.
6. Strobing green "Chase Lights" across the top of the keyboard indicate the throttle speed is higher or lower than the locomotive you are trying to select. If the LEDs are strobing Left to Right, turn the throttle knob clockwise until the LEDs stop strobing and the "STATUS" INDICATOR turns green. If the LEDs are strobing Right to Left, turn the throttle knob counter clockwise until the LEDs stop strobing and the "STATUS" INDICATOR turns green. NOTE: if the

"STATUS" INDICATOR is red then change the direction of the toggle switch.

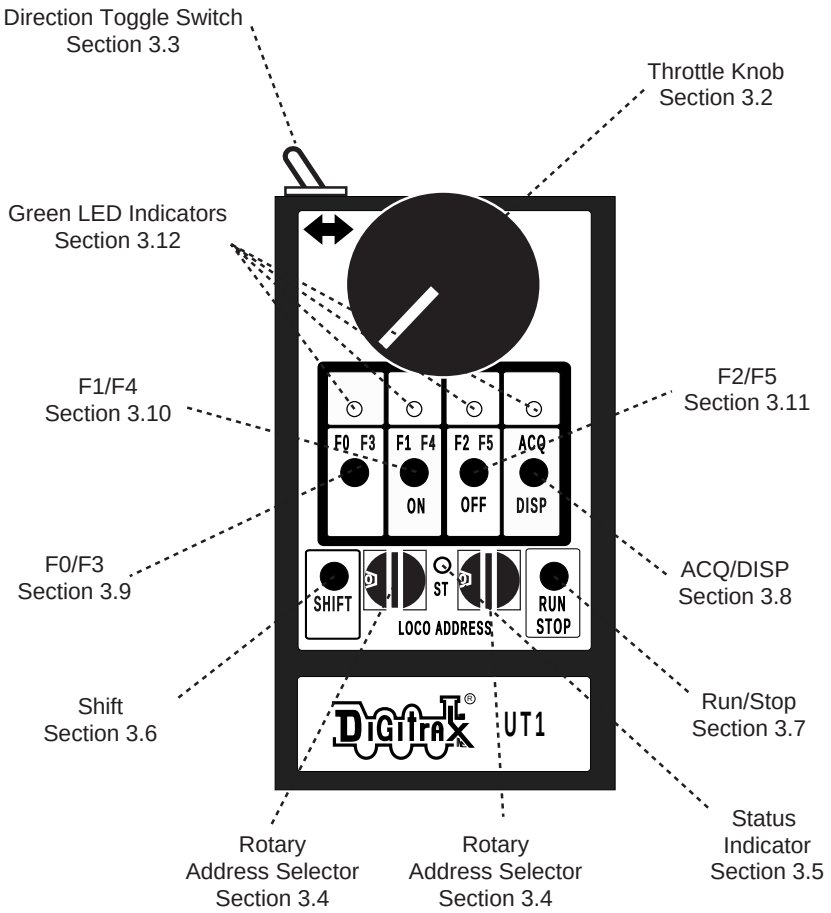
7. Flipping the toggle switch to the left will make the locomotive go forward. Flipping the toggle to the right will make the locomotive go in reverse.
8. Turn the throttle knob clockwise to increase speed and counter clockwise to decrease the speed. The throttle knob can rotate approximately. 300 degrees from start to stop.

2.3.2 Run A DCC Equipped Locomotive

Connect your UT Throttle to any LocoNet jack on your LocoNet System.

In order to select a DCC locomotive, you must know its address. All Digitrax decoders are factory programmed to the default 2 digit short address "03." If your decoder has not been re-programmed then select "03" as the address.

1. Select the two digit address "03" of the DCC locomotive you want to run using the rotary selectors on the UT Throttle. The left rotary selects the "tens" and the right rotary selects the "ones".
2. Press "ACQ/DISP" to select locomotive. The "STATUS" INDICATOR should be a steady green to indicate that you now control that locomotive.
3. If the "STATUS" Indicator is dark, the locomotive that you tried to select is already being controlled by another throttle in the system and is not available.
4. A red "STATUS" INDICATOR indicates that the direction switch is not set to the same direction as the locomotive you are trying to select. Reverse the direction toggle switch and the "STATUS" INDICATOR will turn green.
5. Strobing green "Chase Lights" across the top of the keyboard indicate the throttle speed is higher or lower than the locomotive you are trying to select. If the LEDs are strobing Left to Right, turn the throttle knob clockwise until the LEDs stop strobing and the "STATUS" INDICATOR turns green. If the LEDs are strobing Right to Left, turn the throttle knob counter clockwise until the LEDs stop strobing and the "STATUS" LED turns green. NOTE: if the "STATUS" INDICATOR is red then change the direction of the toggle switch.
6. Flipping the toggle switch to the right will make the locomotive go forward. Flipping the toggle to the left will make the locomotive go in reverse.
7. Turn the throttle knob clockwise to increase speed and counter clockwise to decrease the speed. The throttle knob can rotate approximately. 300 degrees from start to stop.



UT1 Throttle Diagram

3.0 UT1 Throttle Control Panel

3.1 General color codes

The UT1 is color coded according to how the keys are used.

The only RED key is Run/Stop. This is so you can't miss it in case of emergency.

The BLUE keys are used in conjunction with the "SHIFT" key.

3.2 The Throttle Knob

Turn clockwise to increase the speed of your locomotive. Turn counter clockwise to decrease the speed of your locomotive. There is about 300 degrees of rotation from 0 speed to full throttle.

3.3 Direction Toggle Switch

Flip to the right for forward direction and to the left for reverse direction.

3.4 Address Selector Rotary Dials

Rotate these two selectors to select the two digit address (00 to 98) of the locomotive you wish to control. The left selector dials in the 10s and the Right selector dials in the 1s. Select address "99" to select a locomotive or consist that has been "DISPATCHED" from another Digitrax throttle. (See section on dispatched locomotives.)

3.5 Status Indicator

Indicates the status of the UT1.

- **Off** indicates no locomotive is currently selected.
- **Green** indicates a locomotive has been successfully selected.
- **Red** indicates the direction and/or speed are out of correspondence on a locomotive being selected.
- **Blinking orange** indicates the UT1 is in "Switch Mode".

3.6 Shift Key

- Press and hold to access F3, F4, F5.
- Press in conjunction with the ACQ button to "Dispatch"

3.7 Run/Stop Key

- Use as emergency stop. When held down will change locomotive speed to "0". Turn throttle to "0" speed setting to regain control or press RUN/STOP again.
- RUN/STOP key is used in conjunction with other keys to activate other throttle functions.

3.8 ACQ/DISP Key

- Press to acquire any locomotive address after the address has been dialed in with the rotary selectors.
- When address selector reads "99", press "ACQ/DISP" to acquire locomotive address that has been dispatched by another throttle in the system.
- If address selector is set to other than "99" press ACQ/DISP and SHIFT to dispatch the locomotive address to another throttle in the system.
- Press ACQ/DISP along with RUN/STOP to set Option Switches in your booster.

3.9 F0/F3 Key

- Press F0 to toggle front and rear headlights on and off.
- Hold "Shift" and press F3 to toggle Function 3 on and off.

3.10 F1/F4/ON Key

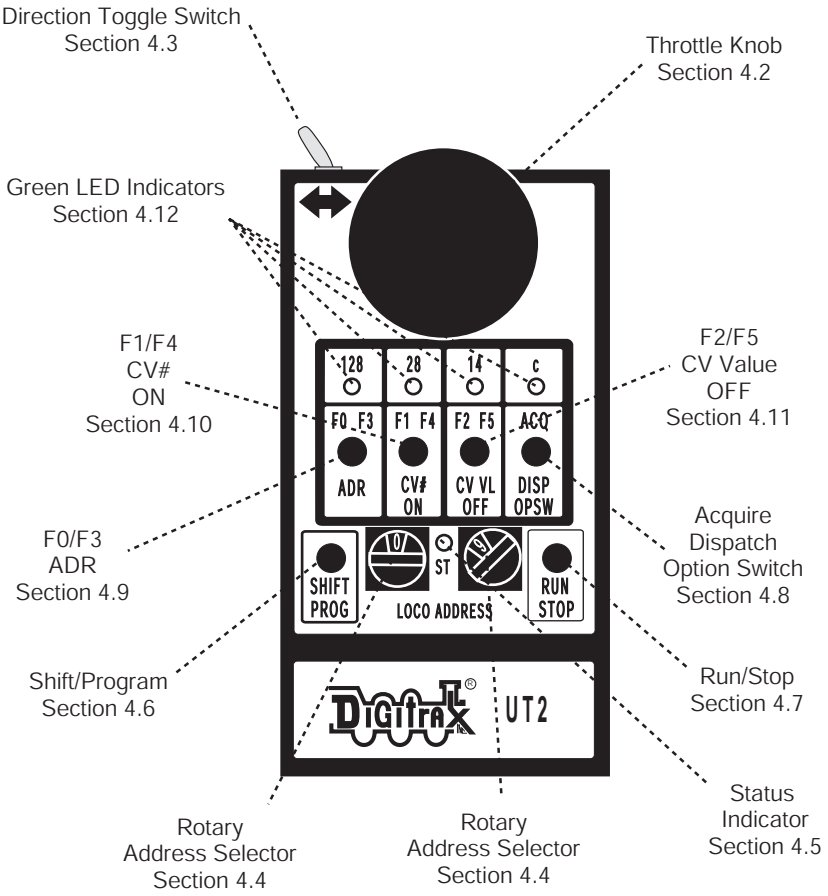
- Press F1 to toggle Function 1 on and off.
- Hold "Shift" and press F4 to toggle Function 4 on and off.
- Press "RUN/STOP" and "ON" together to turn track power on.

3.11 F2/F5/OFF Key

- Press F2 to toggle Function 2 on and off.
- Hold "Shift" and press F5 to toggle Function 5 on and off.
- Press "RUN/STOP" and "OFF" together to turn track power off.

3.12 Four Top Row LEDs (Chase Lights)

- Indicates function status, lit when on
- All four LEDs strobing left to right means that you need to increase speed on the throttle knob to complete the selection of a locomotive.
- All four LEDs strobing right to left means that you need to decrease speed on the throttle knob to complete the selection of a locomotive.
- Indicates CLOSED when in Switch Mode.
- LED above ACQ blinking every 4 seconds indicates that the throttle is active.



UT2 Throttle Diagram

4.0 UT2 Throttle Control Panel

4.1 General Color Codes

The UT2 is color coded according to how the keys are used.

The only RED key is Run/Stop. This is so you can't miss it in case of emergency.

The BLUE keys are used in conjunction with the "SHIFT" key.

4.2 The Throttle Knob

Turn clockwise to increase the speed of your locomotive. Turn counter clockwise to decrease the speed of your locomotive. There is about 300 degrees of rotation from 0 speed to full throttle.

4.3 Direction Toggle Switch

Flip to the right for forward direction and to the left for reverse direction.

4.4 Address Selector Rotary Dials

Rotate these two selectors to select the two digit address (00 to 98) of the locomotive you wish to control. The left selector dials in the 10s and the Right selector dials in the 1s. Select address "99" to select a locomotive or consist that has been "DISPATCHED" from another Digitrax throttle. (See section on dispatched locomotives.)

4.5 Status Indicator

Indicates the status of the UT2.

- **Off** indicates no locomotive is currently selected.
- **Green** indicates a locomotive has been successfully selected.
- **Red** indicates the direction and/or speed are out of correspondence on a locomotive being selected.
- **Solid orange** indicates the UT2 is in Program Mode.
- **Blinking orange** indicates the UT2 is in "Switch Mode".

4.6 PROG/SHIFT Key

- Press and hold to access F3, F4, F5.
- Press in conjunction with the RUN/STOP key to enter Program Mode
- Press and hold for 2 seconds then within 5 seconds press either F0, F1 or F2 to “Status Edit” decoder speed steps to 128, 28, or 14,

4.7 Run/Stop Key

- Use as emergency stop. When held down will change locomotive speed to "0". Turn throttle to "0" speed setting to regain control or press RUN/STOP again.
- RUN/STOP key is used in conjunction with other keys to activate other throttle functions.

4.8 ACQ/DISP Key

- Press to acquire any locomotive address after the address has been dialed in with the rotary selectors.
- When address selector reads "99", press "ACQ/DISP" to acquire locomotive address that has been dispatched by another throttle in the system.
- If address selector is set to other than "99" press ACQ/DISP and SHIFT to dispatch the locomotive address to another throttle in the system.
- Press ACQ/DISP along with RUN/STOP to set Option Switches in your booster.

4.9 F0/F3/ADR Key

- Press F0 to toggle front and rear headlights on and off.
- Hold "Shift" and press F3 to toggle Function 3 on and off.
- When in Program Mode, press to set locomotive address.

4.10 F1/F4/ON/CV# Key

- Press F1 to toggle Function 1 on and off.
- Hold "Shift" and press F4 to toggle Function 4 on and off.
- When in Program Mode, press to select CV #.
- Press "RUN/STOP" and "ON" together to turn track power on.

4.11 F2/F5/OFF/CV VAL Key

- Press F2 to toggle Function 2 on and off.
- Hold "Shift" and press F5 to toggle Function 5 on and off.
- When in Program Mode, press to set CV Value.
- Press "RUN/STOP" and "OFF" together to turn track power off.

4.12 Four Top Row LEDs (Chase Lights)

- Indicates function status, lit when on
- All four LEDs strobing left to right means that you need to increase speed on the throttle knob to complete the selection of a locomotive.
- All four LEDs strobing right to left means that you need to decrease speed on the throttle knob to complete the selection of a locomotive.
- Indicates CLOSED when in Switch Mode.
- In Status Editing Mode, LED indicates either 128, 28 or 14 speed steps.
- “c” indicates CLOSED when in OpSw Mode.
- “c” blinking every 4 seconds indicates throttle active.

5.0 UT Throttle: System Modes

5.1 UT Throttle Configuration Mode

The UT Throttle comes from the factory configured with the most common features enabled as defaults. You can change these features to suit your particular needs by the following procedure.

5.1.1 UT Throttle Configuration Options

1. Choose the features you want from the chart below. Add up the values of your choices to get the "SETTING" value. Example: 0 (Safe Mode) + 2 (F2 Toggle on/off) + 0 (F3 toggle on/off) = "SETTING" of 2.

TABLE I

Defaults	Options
0=Safe Mode	1=Quik Mode
0=F2 Momentary operation	2=F2 Toggles on/off
0=F3 Toggles on/off	4=F3 Momentary operation

2. With the UT Throttle unplugged from LocoNet, Set the rotary selectors to the proper setting (See Table I).
3. Press and hold the F0 key while you plug the UT Throttle into the LocoNet network. As soon as the UT Throttle powers up, release the F0 key. The UT Throttle is now set to the new configuration and will continue to use this configuration until you change it again. The UT Throttle will remember this new configuration whether it is plugged in or not.

5.1.2 UT Throttle ID Number

All UT Throttle throttles come from the factory with the Throttle ID set to "00". As you add throttles it is a good idea to make each throttle's ID unique. Use the following procedure to set the ID number.

1. Unplug the UT Throttle from LocoNet.
2. Set the two digit ID number of your choice on the two rotary selectors.
3. Press and hold the "SHIFT/PROG" key and plug back into LocoNet.
4. Release the "SHIFT/PROG" key. The UT Throttle will remember this number until you decide to change it.

5.2 Track Power Mode

If track power is off, press "RUN/STOP" and "ON" simultaneously to have the Digitrax command station turn on the track power & go through power up sequencing. Press "RUN/STOP" and "OFF" to turn track power off.

5.3 Walkaround Operation on LocoNet

The UT Throttle does not use a battery to maintain its internal memory. All data is stored in EEPROM. When the UT Throttle is connected to LocoNet It receives its total power requirements from the network.

NOTE: The UT Throttle draws approximately 15 mA at a minimum 6.8V DC and gets its total power requirements from the network. It may be necessary to supplement the network power

supply, on large networks, when using multiple throttles. This can be done using Digitrax UP5 Universal Panel(s), to expand LocoNet, with the battery saver option hooked up.

When a UT Throttle is disconnected from the network it turns off, but all the settings are retained in EEPROM while you move to a different part of the layout.. When the UT Throttle is re-connected to the network, it will reselect the locomotive it was previously controlling with all the previous settings intact.

When a UT Throttle with a selected in-use locomotive is disconnected from LocoNet, for more than the system purge time (about 200 seconds), the Command Station will purge these in-use locomotives to the common state so that other throttles can access these locomotives. If the original UT Throttle is reconnected after a purge of its last in-use locomotives, and no settings have changed on the UT Throttle, it will start the selection process again and as long as no one else has selected that locomotive, the UT Throttle will re acquire it. The designation of locomotives as in-use or common ensures orderly sharing of locomotives on the layout and increases the system's ability to run more locos at a time.

5.4 Stop Mode

Press "RUN/STOP" for 1 second by itself and the locomotive under control of your throttle will go to Emergency Stop or "0" speed. There are two ways to restart your locomotive.

- Turn the throttle knob counter clockwise to "0" speed. If you now increase the throttle setting, your locomotive will respond normally.
- If you press "RUN/STOP" again, for 1 second, the locomotive will resume at the speed it was running previously.

Use this only as an Emergency Stop.

5.5 Address Mode

The UT Throttle has two different "Addressing Modes", both of which are described below. These Modes are selectable during the throttle configuration process described later.

Safe Mode (Default)

While in "SAFE MODE" the UT Throttle is unable to complete the selection of an available locomotive unless its present speed and direction match the settings on the UT Throttle.

1. Select the two digit address "03" of the DCC locomotive you want to run using the rotary selectors on the UT Throttle. The left rotary selects the "tens" and the right rotary selects the "ones".
2. Press "ACQ/DISP" to select locomotive. The "STATUS" INDICA-

TOR should be a steady green to indicate that you now control that locomotive.

3. If the "STATUS" INDICATOR is dark, the locomotive that you tried to select is already being controlled by another throttle in the system and is not available.
4. A red "STATUS" INDICATOR indicates that the direction switch is not set to the same direction as the locomotive you are trying to select. Reverse the direction toggle switch and the "STATUS" INDICATOR will turn green.
5. Strobing green "Chase Lights" across the top of the keyboard indicate the throttle speed is higher or lower than the locomotive you are trying to select. If the LEDs are strobing Left to Right, turn the throttle knob clockwise until the LEDs stop strobing and the "STATUS" INDICATOR turns green. If the LEDs are strobing Right to Left, turn the throttle knob counter clockwise until the LEDs stop strobing and the "STATUS" INDICATOR turns green. Flipping the toggle switch to the right will make the locomotive go forward. Flipping the toggle to the left will make the locomotive go in reverse.
6. Turn the throttle knob clockwise to increase speed and counter clockwise to decrease the speed. The throttle knob can rotate approximately. 300 degrees from start to stop.

Quik Mode

While in "QUIK MODE" the UT Throttle is able to select an available locomotive regardless of its present speed and direction

1. Select the two digit address "03" of the DCC locomotive you want to run using the rotary selectors on the UT Throttle. The left rotary selects the "tens" and the right rotary selects the "ones".
2. Press "ACQ/DISP" to select locomotive. The "STATUS" INDICATOR should be a steady green to indicate that you now control that locomotive.
3. If the "STATUS" INDICATOR is dark, the locomotive that you tried to select is already being controlled by another throttle in the system and is not available.

While in "QUIK MODE" the UT Throttle is able to select an available locomotive regardless of its present speed and direction. The selected locomotive will change direction and or speed to match the current settings on the UT Throttle. Care should be taken to insure that the UT Throttle is at a comparable speed setting and direction before selecting a locomotive.

5.6 UT2 Programming Mode

The UT1 has no programming ability. To program decoders use a system

throttle such as a UT2 or a DT100 series throttle.

To use the UT2 to program a decoder :

1. Press and hold the RUN/STOP key and the PROG key. The STATUS INDICATOR will change to steady orange indicating that the UT2 is in Program Mode.
2. Place the loco you wish to program on an isolated programming track.
3. Make sure the command station is set up for programming only to the programming track so that you don't program all the decoders on you layout at the same time.

Set the Decoder's Address:

1. Set the rotary selectors to the desired address (01-99).
2. Press the ADR key to set the decoder to the selected address.

Set other Configuration Variables (CVs):

1. Set the roaary selectors to the CV number that you want to program.
2. Press the F1/F4/CV# key.
3. Set the rotary selectors to the value you want to program into the selected CV.
4. Press the F2/f /CV VAL key to program the value selected into the CV number selected.
5. To change additional CVs repeat steps 1-4 as many times as necessary to complete the programming.

To return to regular operations after programming:

1. Press the RUN/STOP and PROG keys together.
2. Press the RUN/STOP and ON Keys to turn track power back on. The Status INDICATOR will blink orange every 4 seconds indicating that you are in Run Mode again.

Table II: Most Commonly Used CVs

CV #	Used For	Value range
Ad(01)	Loco Address	0-98 decimal
02	Start Voltage (Vstart)	0-99 decimal
03	Acceleration rate	0-99 decimal
04	Deceleration	0-99 decimal
06	Mid-point Voltage (Vmid)	0-99 decimal
29	Configuration Register	See Table III

Table III: Configuration Register Values:
These are some of the common values used in the **Configuration register** (CV #29) and their meaning.

Value in CV29	Meaning to Decoder	
Decimal value	Speed Steps (Std or Adv)	Analog Conversion
00	14 (Standard Mode)	No
02	28/128 (Advanced Mode)	No
04	14 (Standard Mode)	Yes
06	28/128 (Advanced Mode)	Yes
07	28/128 (Advanced Mode) normal direction reversed (FX Decoders only)	Yes
22	Enable Loadable Speed Table	Yes

5.6.1 Loadable Speed Tables

The UT2 throttle is limited to programming two digit numbers. Loadable Speed Tables require CV values anywhere from 00 to 127, because of this the UT2 is not able to adequately program Loadable Speed Tables. We recommend using an Advanced LocoNet Throttle such as the DT100, DT200, DT300 or DT400 to program loadable speed tables.

5.7 Status Editing Mode

If you have a decoder that does not support 128 or 28 speed step operation, you will need to tell the command station by editing the status of that decoder before running it with your Digitrax system.

To Status Edit using a UT2:

1. Select the decoder you want to status edit on your UT2 throttle.
2. Press and release the PROG/SHIFT key.
3. For the next 5 seconds one of the top row of LEDs will blink, indicating the speed step setting the command station is currently sending to this decoder. For example, if the LED under 128 is blinking, the command station is sending commands to he decoder in 128 speed steps.
4. To change the speed step setting, press the F0 Key to set the speed step setting to 128, F1 to set the speed step setting to 28 or F2 to set the speed step setting to 14. You must do this within the 5 second time period or the UT2 will automatically exit status edit mode. If this happens, press and release the PROG/SHIFT Key again to begin status edit mode again.

5.8 Switch Mode

Turnout Control

The UT Throttle can be used to throw turnouts on your layout if they are connected to a stationary decoder such as a Digitrax DS54.

1. Press the "RUN/STOP" and the "ACQ" buttons at the same time to activate "Switch" Mode.
2. Use the two rotary selectors on the UT Throttle to select the turnout address to throw or close (With the UT Throttle you are limited to a two digit turnout address).
3. The LED above "ACQ" will light if the last known state of the turnout selected is the "closed" position.
4. Press "ACQ" to throw and close the turnout.
5. The LED above "ACQ" will be dark if the last known state of the turnout selected is the "thrown" position.

6. If the LED above "ACQ" flashes on and off, the turnout state is unknown.
7. Return the rotary selector switches to the locomotive address before exiting "Switch Mode". If the locomotive address is not correct the locomotive will be released.
8. Press "RUN/STOP" and "ACQ" at the same time to return to normal operation.

While in "Switch" Mode, you can still control the speed and direction of your locomotive. Functions will also operate normally while in "switch" Mode.

6.0 Running Trains

6.1 Locomotive Speed Control

To control the speed of a locomotive, just turn the Throttle Knob clockwise to increase speed and counter clockwise to decrease speed. The knob has approximately. 300 degrees travel from minimum. or zero throttle to full throttle.

6.2 Locomotive Direction Control

To change the direction of a locomotive, just move the direction toggle switch to the right for forward direction and to the left for reverse direction.

If the decoder has momentum, CV 03 and CV 04 set to a value above zero, then reverse the direction while the train is moving, and the locomotive will slow down at the programmed deceleration rate, stop and accelerate again at the programmed acceleration rate in the opposite direction.

6.3 Selecting a Locomotive (Safe Mode)

1. Connect the UT Throttle to LocoNet.
2. To select a locomotive, dial in the two digit address (00 to 98) of the locomotive you wish to control using the two rotary selector switches. The right selector dials in the 10s and the left selector dials in the 1s. Select address "99" to select a locomotive or consist that has been "DISPATCHED" from another Digitrax throttle. (see section on Dispatched locomotives).
3. After selecting the address, press "ACQ/DISP" once to finish the selection. If "ACQ/DISP" is pressed a second time the locomotive will be returned to the system again. Pressing"ACQ/DISP" again, etc.
    a. If the UT Throttle is in “SAFE MODE” (default) and the loco-

motive you have selected is available and the speed and direction match the UT Throttle, the “STATUS” INDICATOR will light a solid green. You will have control of the locomotive.

b. If the “STATUS” INDICATOR lights red, the direction switch is reversed. Flip the reverse switch to the other direction, the “STATUS” INDICATOR will light solid green.

c. If the four top LEDs are strobing from left to tight or right to left, this indicates a speed mismatch between the speed setting on the UT Throttle throttle and the actual speed of the locomotive. Turn the throttle knob in the direction of the strobing LEDs until the “STATUS” INDICATOR turns green and the top LEDs go off indicating that the throttle speed is now matched to the locomotive’s actual speed..

4. If the "STATUS" INDICATOR does not light at all when the address is dialed in, that locomotive is already assigned to another throttle and is not available.

6.4 Selecting A Locomotive (Quik Mode)

1. Connect the UT Throttle to LocoNet.
2. To select a locomotive, dial in the two digit address (00 to 98) of the locomotive you wish to control using the two rotary selector switches. The right selector dials in the 10s and the left selector dials in the 1s. Select address "99" to select a locomotive or consist that has been "DISPATCHED" from another Digitrax throttle. (see section on Dispatched locomotives).
3. After selecting the address, press "ACQ/DISP" once to finish the selection. If "ACQ/DISP" is pressed a second time the locomotive will be returned to the system again. Pressing"ACQ/DISP" again will reselect again.
4. If the UT Throttle is in "QUIK MODE" and the locomotive you have selected is available, the "STATUS" INDICATOR will light a solid green.

The selected locomotive will immediately change direction and or speed if the current settings on the UT Throttle don't match the locomotive. Care should be taken to insure that the UT Throttle is at a comparable speed setting and direction before selecting a locomotive when in QUIK MODE".

5. If the "STATUS" INDICATOR does not light at all when the address is dialed in, that locomotive is already assigned to another throttle and is not available.

6.5 Dispatching Locomotives

Dispatching is a special feature incorporated into the LocoNet "language" to meet the needs of clubs and serious operators that wish to enforce a strict discipline in how engineers access locomotives. An example would be having a Superintendent of motive power making all the locomotive assignments. This also allows the UT Throttle to run 4 digit addresses and consists made up on other throttles in the system.

To dispatch a locomotive using a the UT Throttle, simply press the "ACQ/DISP" and the "SHIFT" buttons together and the locomotive or consist currently being controlled will be released to the system and also specially marked as a "Dispatched" locomotive as apposed to just releasing it to the system.

This specially marked Dispatch locomotive can be requested and acquired by any UT Throttle using the "99" address on the address selectors.

Note: The same care should be taken when acquiring a "DISPATCHED" locomotive as when selecting from scratch.

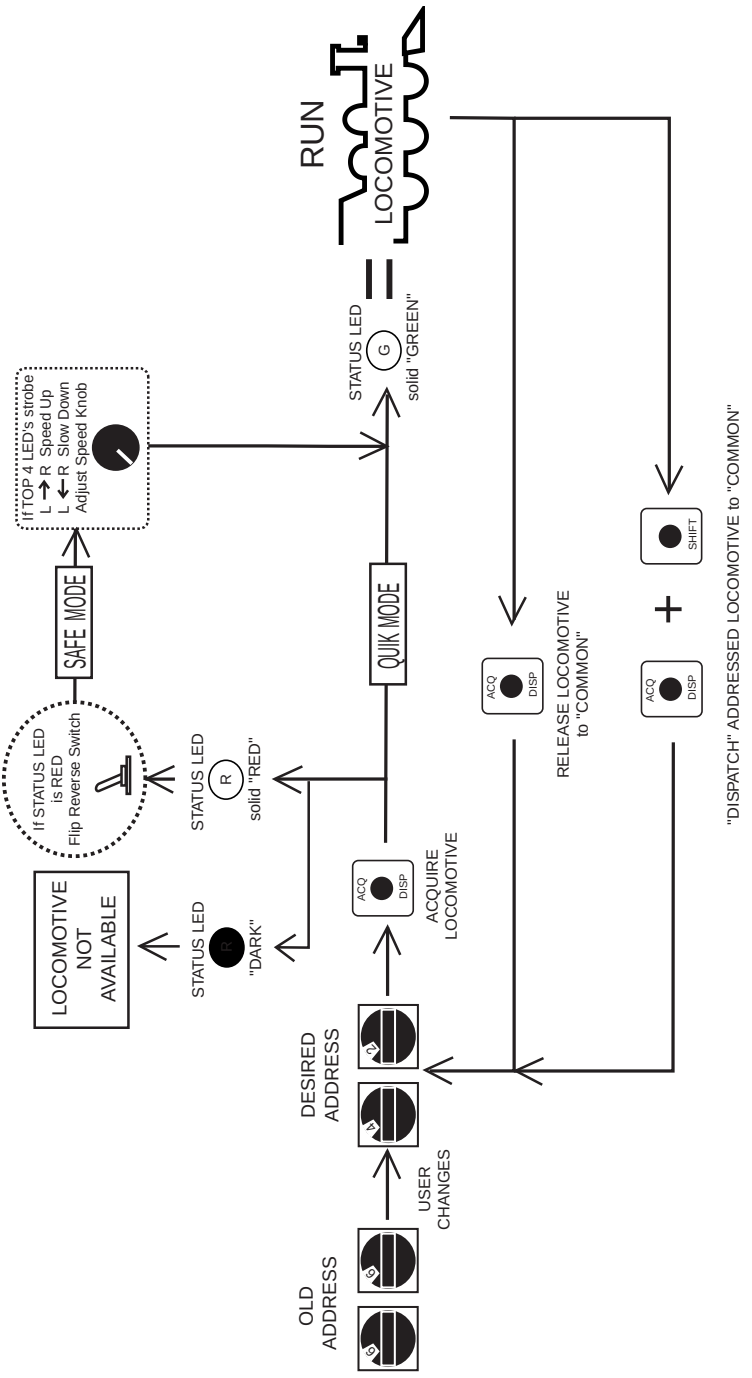
This specially marked Dispatch locomotive can also be requested and acquired by any BT2 "Buddy Throttle." BT2s have no address selection capability of their own.

The BT2 that acquires the dispatched locomotive/consist will pick-up the train in exactly the state it was in when it was initially dispatched, i.e., if the unit was moving with lights on, it will be acquired with no speed change and continue with lights on until the acquiring BT2 commands a new setting.

The TOP or control locomotive in a consist or MU lash up can be Dispatched to pass control of the entire consist .

There is only one Dispatch marked locomotive in the system at a time. Any throttle can select this dispatched address since it is “common” to all devices in the system. If another locomotive is dispatched, it will replace the last locomotive in the dispatch slot.

UT Throttle Address Selection Flow Chart



6.6 Controlling Lights & Functions

The UT Throttle has 3 function buttons. Each of these buttons controls 2 functions. F0 thru F2 are controlled by just pressing the appropriate button. The function will toggle on and off each time a button is pressed. F2 will only stay on as long as the button is held down, this lets you control whistles and horns when using sound equipped locomotives.

To access F3 thru F5 press the "SHIFT" button at the same time as the function buttons. F3 thru F5 will toggle on and off each time a button is pressed.

Note that for proper light operation, you must be sure that the decoder's speed steps match the speed steps sent by the Command Station. If you are using a Digitrax or other Advanced capability decoder, we recommend it be programmed to the 128 speed step (default) mode or 28 step mode.

6.6.1 Controlling Functions on Consisted Locos

All locomotives in a "BASIC" consist (all locos the same address) will respond to any function commands issued. F0 will turn the headlights of all the locomotives in the consist on and off. The other functions will work the same way.

If the UT Throttle is controlling a consist that was made up using UniVersal consisting with a DT100 and then "Dispatched " to the UT Throttle, each locomotive in the consist can have its headlight and functions controlled independently as long as the consisted locomotives are using 2 digit addressing.

Select the 2 digit address of the locomotive in the consist using the address selectors. Press "ACQ/DISP", the "STATUS" light will blink green if a consisted locomotive, other than the TOP or controlling locomotive address, is selected. Press the appropriate function button to control the desired function in the consisted locomotive.

Note: The throttle and direction controls will not work while the "STATUS" INDICATOR is blinking green. To regain control of the consist, return the address selectors to the TOP or controlling locomotive address and press "ACQ/DISP", The "STATUS" INDICATOR will turn to a steady green, speed and direction control will return for the consist.

6.7 Consisting Operations

The UT Throttles will run any consist you have set up with other LocoNet throttles in your system as long as the address is 01-98 or if you run the consist as a 4 digit address on 99.

When you are using a UT2 throttle for programming, you will only be able to access basic consisting. In this case, to run more than one powered loco in a multiple unit lash up, simply place all the units together on the programming track and program them with the same address. They will all operate on the address you set. If you want to have one or more locos run “backwards,” as is prototypical in some situations, you can program them by setting CV29 so that the normal direction of travel of the loco/s is reversed (See Table III). If your decoder does not support this feature, you can also re-wire the motors in the locos you want to run backwards so that they permanently run in “reverse.”

7.0 Troubleshooting

7.1 Clean Track

The majority of intermittent operation faults can be traced to bad connections and poor or noisy wheel pickups on locomotives. Check track cleanliness and quality of wheel pickups. The DCC digital packet communication strategy performs exceptionally well in a less than perfect environment, and will often mask bad connections until they are really impossible to work with!

7.2 UT Throttle Won't power up when plugged in (LEDs Flicker)

Voltage on LocoNet is dropping below 6.8V DC as the UT Throttle powers up. If you are using UP5 Universal Panels to extend the LocoNet network, hook up the battery saver option using an external 12V DC power supply.

7.3 Decoder Won't Respond

If you cannot figure out what a locomotive is doing or "who" it is by address, do not panic! Just reprogram the locomotive. If the decoder is damaged, all is not lost, it can be repaired. See the Warranty section for details.

7.4 Emergency Stop

If the layout starts to "get away" on you, either PRESS "RUN/STOP" or, turn the track power to "SLEEP" on the command station. Either way will give you a chance to regain your composure, and you will be able to rejoin the contest.

7.5 Mechanical Drive Train Problems

Pay attention to the mechanical drive train and free movement of the locomotive wheel sets. This is especially important with inexpensive locomotives. Using Digitrax decoders with appropriate programming settings, you can achieve surprisingly good quality motion, if you carefully adjust the mechanisms for smooth running.

8.0 FCC Information

Radio or TV Interference: (this information is MANDATED by the FCC)
This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

-Reorient or relocate the receiving antenna.
-Increase the separation between the equipment and the receiver.
-Connect the equipment into an outlet on a circuit different form that to which the receiver is connected.
-Consult the dealer or an experienced radio/TV technician for help.

Note that any modifications to the equipment not expressly approved by Digitrax voids the user's authority to operate under and be in compliance with CFR 47 rules, as administered by the Federal Communication Commission. Digitrax believes any conscientiously installed equipment following guidelines in this manual would be unlikely to experience RFI problems.

For Canadian Users:
"This digital apparatus does not exceed the Class B limits for Radio noise emission from digital apparatus set out in the Radio Interference Regulation or the Canadian Department of Communications."
Le present appariel numerique n emet pas de bruits radio-electriques depassant les limites applicables aux appareils numeriques de la classe B prescrites dans le Reglement sur le brouillage radioelectrique edicte par le ministere des Communications du Canada.

9.0 Warranty and Repair Information

Digitrax gives a one year guarantee against manufacturing defects on UT Tthrottles. These units are not user serviceable (opening the case voids your warranty). If a defect occurs, return the unit to us for service. We will repair or replace these units at our discretion at no charge to you for one year from purchase date. Proof of date purchased is required for warranty repair. This warranty excludes damage due to abuse, such as failure to properly protect against input over current with a fuse or circuit breaker or applying exces-

sive input voltage to the unit. We will make any repair needed because of physical damage or electrical abuse at fair and reasonable rates. See www.digitrax.com for complete warranty information and repair charges for non-warranty repairs.

All warranties on Digitrax products are limited to refund of purchase price or repair or replacement of Digitrax products at the sole discretion of Digitrax. In the event that Digitrax products are not installed or used in accordance with the manufacturer's specifications, any and all warranties either expressed or implied are void. Except to the extent expressly stated in this section, there are no warranties, express or implied, including but not limited to any warranties of merchantability or fitness for a particular purpose.

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.

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