



Removing a locomotive from a consist

1. Select the address of the locomotive to be removed from a Consist.
2. Enter the Menu by pressing the Forward, , and Reverse, , buttons.
3. Use the + or – buttons to select "NU-", and press Enter. The display will blink.
4. Press Enter again to remove the locomotive from the Consist.+

LIMITED ONE-YEAR WARRANTY

Atlas Model Railroad Company, Inc. warrants that this HandCommand will be free from defects in material and workmanship for a period of one year from the date of purchase. If this HandCommand fails during the warranty period, carefully pack the item in the original carton, together with the dated sales receipt, and return to: Atlas DCC Warranty, 378 Florence Avenue, Hillside, NJ 07205. Defects due to misuse, improper maintenance and/or abuse are not covered by the warranty. Items that have been disassembled by the modeler or anyone other than an authorized Atlas repair person are not covered by the warranty. This warranty gives you specific legal rights and you may also have other rights which vary from state to state.



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INSTRUCTION MANUAL



ITEM #331

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INTRODUCTION

Congratulations for purchasing Atlas’ new plug-n-play DCC throttle! Everything you will need to get started using the HandCommand is included; there are no special cables to make, no searching for hard-to-find connectors or wire crimping necessary! Enclosed are: One Atlas Universal Panel Connector (UPC) that you can mount anywhere on the fascia of your layout for remote use of your HandCommand (see separate instruction sheet, included), 7' Xpress-Net cable wire which is used to connect the UPC to the Commander or other command station you are using, and a 6' coiled cord to connect your HandCommand to the UPC.

The enclosed Atlas HandCommand is a walk-around throttle designed to give you the functionality of the Atlas Commander, without the ability to program decoders. You can add up to five HandCommands to a Commander, for complete control of any size layout. This manual will give you all the information you need to use the HandCommand with the Atlas Commander or other DCC Command Station that is XpressNet-compatible. Please check our web site at www.atlasrr.com for any pertinent updates to this or other Atlas Master DCC components.

ATLAS MASTER DCC SYSTEM COMPONENTS

The following is all you need to get started running your trains in Digital Command Control:

- 1. Commander*:** Item #330 - For complete control of your trains. Controls up to 99 locomotives and 99 accessories (i.e., turnouts). Supports up to five HandCommand throttles and three additional Power Stations (for added power). Control up to three functions per decoder (available functions depends on the capability of your decoder).
- 2. Generator*:** Item #335 - Provides power to the Atlas Commander. Also makes a great power supply for your turnouts and other accessories.

3. Decoder*: Item #340 - Atlas offers an HO scale multi-function Dual-Mode Decoder™ that, once installed, allows you to easily switch the operation of your locomotive from analog to digital mode. This function enables you to run your decoder-equipped engines on an analog layout without the typical speed differential. N scale multi-function decoders are also available. Some HO & N scale Atlas locomotives have decoders factory-installed, for your convenience. See our web site for further details. www.atlasrr.com

** The Atlas Master DCC System components conform to the NMRA DCC standards and are also compatible with items from other DCC manufacturers.*

GETTING STARTED

In order to function, the HandCommand must be connected to a Commander or other command station that supports XpressNET technology (see shaded box on right for definition of XpressNET). This connection can be made directly using the 7' XpressNet cable (see instructions below) or through an installed Universal Panel Connector (UPC; see separate usage instructions enclosed), using the 6' coiled cord. Using the UPC gives you the ability to use your HandCommand from a location that is remote from your Commander.

Connecting the HandCommand to the Atlas Commander (or other Command Station)

The Atlas HandCommand is designed to work with the Atlas Commander or any system that supports XpressNET technology. You must have an Atlas Commander or other Command Station to use the HandCommand; it cannot function independently.

Connecting the HandCommand to a Commander

The HandCommand connects to the Atlas Commander via the XpressNET connector on the back of the Commander. The connection is made with a 6-conductor wire having a six-pin RJ25 connector; a 7' wire is enclosed. Up to five HandCommand throttles may be connected to one Atlas Commander. See UPC instructions for diagram.

XpressNET is a high-speed digital network based upon the industry standard RS-485 protocol. The Atlas Commander uses XpressNET to communicate between its high-speed components, such as the HandCommand. XpressNET communicates at 62.5 thousand bits per second (nearly 4 times faster than its closest competitor). It is the highest performance network in widespread DCC use and all its protocols are freely available to both the industry and the hobbyist.

XpressNET is an industrial based technology, which can be setup in an infinite number of possibilities, making it simple to setup and control any layout, large or small.

See separate instructions for installing and using the Atlas Universal Panel Connector.

USING THE ATLAS HANDCOMMAND

Buttons And Their Function

Dial - Used to control the speed of the selected engine.

▲ and ▼ - Used to select the direction of the selected engine. Press both buttons together to access the Menu system.

Stop - Press this button to turn the track voltage on or off. Also press this button to restore power to the track after removing a short from the track.

F0, F1, F2* - Used to control locomotive and accessory decoder functions. They are also used for Menu operations.

When in the Menu, F0 functions as the Enter button and F2 functions as the Exit button.

** The number of accessible functions depends on the capabilities of the decoder installed in your locomotive.*

"+" and "-" - Used to select the address of the locomotive (or Accessory Decoder) you wish to control. When in the Menu, used to select Menu options or to set parameters.

Understanding Locomotive Decoder Addressing

Each decoder-equipped locomotive has an address. The address is how the HandCommand identifies which locomotive it is controlling at any given time. Using the HandCommand you can easily control the speed, lights, and other functions (if available) of up to 99 locomotives!

Most decoders come set to the default address of "03."

RUNNING YOUR LOCOMOTIVE

When you connect the HandCommand to an Atlas Commander or other XpressNET compatible command station, the display will default to the Locomotive display, Lxx (xx is a locomotive address).

Select the locomotive you desire to control using the + or - buttons. Once you've reached the desired address, you may acquire the locomotive by adjusting the speed, changing the direction of the locomotive, or activating a function.

Controlling the Speed of Your Locomotive

The speed of the selected locomotive is controlled with the dial. Turning the dial clockwise increases speed, turning it counter clockwise decreases the speed. In full counter clockwise (ccw) position the locomotive stops and full clockwise position sets maximum speed.

Changing Directions

The  and  buttons are used to control the direction of the selected locomotive:

<u>Key</u>	<u>Display</u>
	 Forward - A dot will appear to the upper left of the centermost LED.
	 Backward - A dot will appear to the lower left of the centermost LED.

The direction of travel changes only after the key is released. The display will show the selected direction.

If you change the direction while the engine is still moving (speed dial not fully ccw), the locomotive will decrease speed (brake) with the preset deceleration setting until it comes to a full stop and then accelerate in the opposite direction with the preset acceleration setting. For more information on acceleration and deceleration settings (and programming same), see decoder documentation.

Activating Functions*

Buttons **F0, F1** and **F2** are used to activate functions on the selected locomotive and to control turnouts or other accessories via an accessory decoder. (For information on controlling your turnouts or accessories, please see page 10.)

Function zero - **F0** - controls the front headlight and rear light (these lights may be configured for directional or independent control).






Pressing the button once activates the function, and the second press turns it off. All functions can be activated or de-activated independently of each other so you may have two or three functions on at one time, if desired.

The user may configure function one - **F1**, function two - **F2**, function three - **F3**, and function four - **F4**. Examples of additional functions are sound (bells, horn, whistle) ditch lighting, or strobe lights. Consult your decoder's manual for information on installing and using additional functions.

To control **F3** or **F4**: Press and hold a direction button, Forward  or Reverse . Press **F1** to control Function three. Press **F2** to control Function four.



The display below shows if a function is active or not.

**The number of accessible functions depends on the capabilities of the decoder installed in your locomotive.*

Active Function	Display
F0	 <p>If function F0 is active, a dot is displayed to the lower right of the leftmost LED.</p>
F1	 <p>If function F1 is active, a dot is displayed to the lower right of the center LED.</p>
F2	 <p>If function F2 is active, the dot is displayed to the lower right of the rightmost LED.</p>
F3	 <p>If function F3 is active, a dot is displayed to the lower right of the center LED while a direction button is pressed.</p>
F4	 <p>If function F4 is active, a dot is displayed to the lower right of the rightmost LED while a direction button is pressed.</p>

Emergency Stop



In case of a foreseeable train crash, operation can be stopped by pressing the **Stop** button:

Key	Display
Stop	 <p>The display shows a flashing "OFF". The power to the track is turned off.</p>
Stop	 <p>Pressing the Stop key again restores power to the track. All locomotives running prior to pushing Stop will start up and accelerate to the last set speed.</p>

If a short occurs on the track the display will display a flashing "OFF". Once the short is cleared from the track, press the Stop button to restore power to the track.

When the stop button is pressed after an emergency stop or after clearing a short on the track, all trains resume operation at the speed they were set to prior to the stop or short.

RECALLING LOCOMOTIVES

The HandCommand has a "stack" feature which remembers the last eight locomotives accessed. To recall a locomotive from the stack, press either the Forward  or Reverse  button (depending on the direction the locomotive is traveling) and then the + or - button to scroll through the stack until you reach the desired locomotive. The stack remembers the last eight locomotives acquired; any locomotives acquired prior to the last eight are not accessible via the stack. For example, in a stack of 1,2,3,4,5,6,7,8, if you access another locomotive (ie., locomotive 9), the stack will forget locomotive 1 and remember 2,3,4,5,6,7,8,9.

Acquiring a locomotive that is currently running:

When selecting a locomotive, either directly using the + or - buttons or from the stack, you may adjust the speed dial to approximate the locomotive's speed.

When acquiring a locomotive directly, select the locomotive address on the display. Then press and hold the direction button and adjust the Speed dial to approximate the speed of the locomotive, then release the direction button.



When recalling a locomotive from the stack, adjust the Speed dial prior to releasing the direction button. This allows you to recall a locomotive without an abrupt change in speed.

THE MENU

The **HandCommand** has a **Menu System** which is used for the following settings and functions:

- Controlling turnouts
- Adjust system settings
- Setting speed steps

Accessing the Menu

Press both Forward  and Reverse  buttons at the same time to access the Menu system. The display changes and now shows the last used menu. You may scroll through the menu choices using the + and - buttons.

When you reach the desired menu, press the **Enter** button to access the settings in that menu. Press the **Exit** button a second time to return to the locomotive display.

Menu Selections



This menu is used to control turnouts, or control other accessories. **NOTE:** You must have an accessory decoder attached to one or more turnouts on your layout to use this function. For more about controlling turnouts, see below.



This menu is used to select the speed steps of the selected locomotive decoder.



This menu is used to change the system settings.

Controlling Turnouts

Accessory decoders, like your locomotives, require a unique address to allow independent control. Most Accessory Decoders are programmed in groups of four. I.E. (1,2,3,4), (5,6,7,8), (9,10,11,12), ... Accessory decoders must be programmed just like a locomotive decoder (consult the instructions included with your accessory decoder for programming directions). After the required programming you can use the Function buttons on your HandCommand to control the turnouts as described on the next page.

1. Press both Forward  and Reverse  buttons at the same time to access the Menu system.

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Display

What To Do

Press **Enter** to access the Turnout (switch) menu. Press the + or - buttons until the Turnout menu is displayed, then follow the steps below.

Use the + or - buttons to select the turnout (or accessory decoder) address you desire to control. (Possible range is 1 through 99)

When you reach the desired turnout address, Press F0 or F1 to control the turnout.

The direction the turnout throws will depend on how it is connected to the Accessory Decoder. If the turnout throws in the wrong direction, reverse the two control wires connected to the Accessory Decoder.

During the time you are in the Turnout menu, you can control the speed of the locomotive that was last selected using the dial.

Speed Step Assignment

The speed range from a complete stop to maximum speed is divided in steps. The larger the number of steps, the better the speed control resolution. (ie., the larger the number of speed steps the smoother the control of the locomotive.) The Atlas Commander supports 14, 28, and 128 Speed Steps and defaults to 28 speed steps. Speed step settings are assigned for each locomotive and each locomotive may be set to a different number of steps. Follow the procedure below to set the speed steps for the locomotive selected on the display.

Setting Speed Steps*

1. Press **Exit** until you are back at the Locomotive address display [L ##].
Scroll using + and - until you arrive at the desired locomotive address.
2. To **Enter** the Menu System, press both Forward and Reverse buttons at the same time.

Display

What To Do

Press the + or - button until the speed step menu is displayed. Press **Enter** to access the speed step menu.

The display shows the current speed step setting for the selected locomotive address.

Press + or - until you arrive at the desired speed step (14, 28 or 128 are your options)

Once the desired speed step is displayed, press **Enter** to accept the change, or press **Exit** to return to the Menu selection without changing the speed steps.

* The selected locomotive must be stopped (Speed dial fully CCW) to change the speed steps.

NOTE:



If the headlights on your locomotive blink on and off as the speed is changed, the Commander is in 28 speed steps and the locomotive decoder is set for 14 speed steps. If the lights do not turn on at all, the locomotive is set for 28 speed steps and the Commander is set for 14 speed steps. The Commander defaults to 28 speed steps. If your locomotive returns to 14 speed steps after losing power, or being removed from the track, the locomotive is configured for 14 speed steps. To correct this, add 2 to the value in Register 5 and save the new setting. Consult your system manual for programming procedures.

System Settings

The following system parameters can be edited or viewed:

- Version number of the HandCommand software (view only).
- Service number of the HandCommand. You will be asked to identify this number if you call in for assistance with your HandCommand.

Accessing System Settings

1. Press  and  to enter the Menu system and use the + or - button to select "SYS".

Display

What To Do



Press **Enter** to access the System Menu or press **Exit** to return to the Locomotive Display.



This menu is used to display or change the HandCommand XpressNET address. Press **Enter** to access this menu, or press **Exit** to return to the system menu.



The XpressNET address range is from 1 to 31. Use the + or - button to select an address. Press the **Enter** button to accept the new XpressNET address, or **Exit** to return to the System Menu selections.



This menu displays the HandCommand software version number. This selection cannot be changed.



Press **Enter** to view the version number, or press **Exit** to return to the System Menu selections. This selection cannot be changed.



This menu displays the Version number. Press **Enter** to view the version number. This selection cannot be changed.



Press **Exit** to return to the System Menu selection. Press **Exit** twice to return to the System Menu.



This menu displays the version number of the Master Commander. Press **Enter** to view the Master Commander version number.





Press **Exit** to return to the System Menu selections. Press **Exit** twice to return to the locomotive display.

CONSISTING

(Multiple Unit Operations)

*Consisting is operating or controlling several locomotives as if they were a single locomotive or entity. For example, several diesels may be connected together to provide more power for a steep grade. Consists are also known as Multiple Unit lashups, or MUing. *(Please Note: Version 2.31 software for the Atlas Commander does not support consisting. Please visit the DCC section of our web-site for an upgrade, at www.atlasrr.com)*

Consist Setup Procedure

1. Select the address of the locomotive you wish to add to a Consist.
 2. Set the direction that the locomotive will operate in the Consist.
 3. Enter the Menu by pressing the Forward, , and Reverse, , buttons.
 4. Use the + or - buttons to select "NU", and press Enter.
 5. Use the + or - buttons to select the address you wish to use as the Consist address and press Enter.
- Note:** The Consist address can be the address of an actual locomotive or an unused address.
6. Add additional locomotives by following steps 1 through 5.

If a locomotive is part of a Consist, the display will indicate this by replacing the "L" with an "n", or "n". If the display shows "n", the locomotive is the Lead locomotive. If the display shows "n", the locomotive is part of a Consist, but not the Lead locomotive.

While a locomotive is part of a Consist, you may select the locomotive to change any functions as desired. While making changes to a locomotive in a Consist, any speed or direction changes will effect the entire consist.

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