

**CAUTION-ELECTRICALLY OPERATED PRODUCT**  
 NOT RECOMMENDED FOR CHILDREN UNDER 14 YEARS OF AGE. AS WITH ALL  
 ELECTRIC PRODUCTS, PRECAUTIONS SHOULD BE OBSERVED DURING HANDLING AND USE  
 TO PREVENT ELECTRIC SHOCK. INPUT: 120 VAC 60HZ 22W. OUTPUT: DC 16V 1000mA 16VA

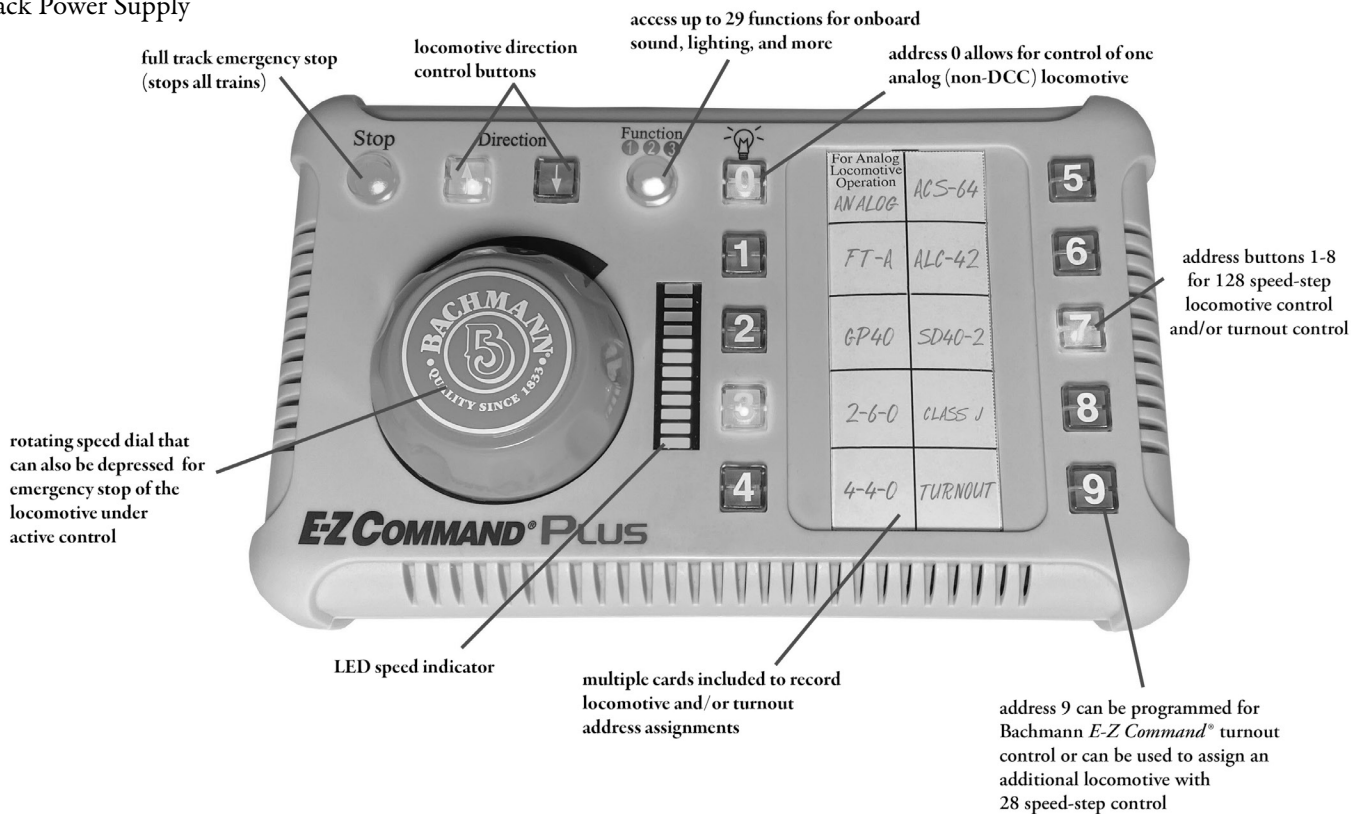
# E-Z COMMAND® PLUS

## Setup and Programming Instructions

Bachmann Trains is pleased to bring you *E-Z Command® Plus*. With *E-Z Command®*, digital control of speed, lighting, sound, and direction of multiple locomotives is possible, as well as remote control of Bachmann's *E-Z Command®* DCC-equipped turnouts. *E-Z Command®* simplifies the programming process for locomotives with one-button, on-track programming. Other features include 128-speed steps for smooth operation and plug-in wiring for simple setup. *E-Z Command®* will operate all DCC-equipped Bachmann locomotives as well as NMRA compliant DCC-equipped locomotives from many other manufacturers.

Your *E-Z Command® Plus* Digital Command Control System consists of the following components:

- *E-Z Command® Plus* Control Center
- 1 Red *E-Z Track®* Track Power Wire
- Wall-pack Power Supply



With plug-and-play capability, *E-Z Command®* is simple to set up and use, whether you're operating an existing model railroad or building an entirely new layout. To ensure trouble-free operation, we recommend that you read this manual completely before using your system for the first time.

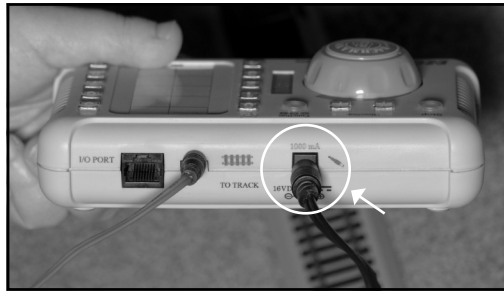
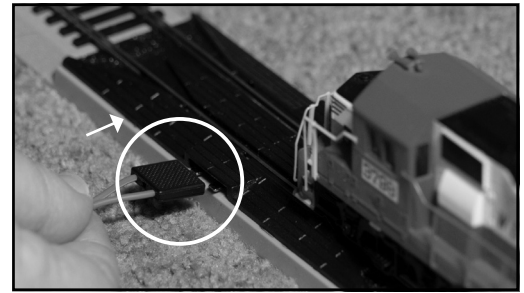
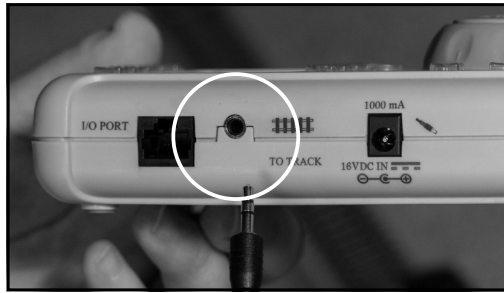
### Important Notice

**Do not connect the *E-Z Command® Plus* Control Center to the wall-pack power supply until you have connected the control center to your track. Multiple dial turns required to bring locomotive up to speed.**

## TRACK CONNECTION

Before beginning, if standard DC power packs supply your railroad, turn them off and disconnect the feeder wires to your track. If your layout is segmented into “power districts”, turn all electrical blocks on, as long as doing so will not result in a short circuit. Particular care should be taken with reverse-loop track configurations. To avoid complicated reverse loop wiring, see Bachmann’s *E-Z Command® Automatic Reverse Loop Module (Item No. 44912)*.

If you are using Bachmann’s *E-Z Track®* system, plug the red *E-Z Track®* Track Power Wire into the socket on the back of the *E-Z Command® Plus* Control Center labeled TO TRACK and firmly plug the other end into any standard *E-Z Track®* terminal reailer.



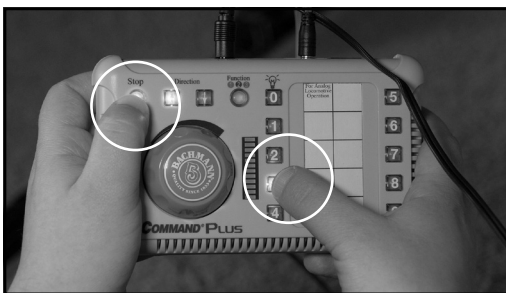
When using a track system other than *E-Z Track®*, you will need to cut the square plug off of the *E-Z Track®* Power Wire. Use a wire stripper to expose bare wire at the cut point, and plug the other end into the *E-Z Command® Plus* Control Center. Next, attach the bare ends of the power wire to the points where you previously supplied power from your DC controller to your layout.

After the track connections are complete, plug the Wall Pack Power Supply into a standard 110-volt wall outlet. Plug the wire from the Wall Pack Power Supply into the socket on the *E-Z Command® Plus* Controller labeled 16VDC IN.

Once the *E-Z Command® Plus* Control Center is powered, the STOP button will be lit. One of the DIRECTION buttons and the button for address 3 will also be lit. If your Control Center does not power up as shown here, disconnect it from the Wall Pack Power Supply, and let it sit for two minutes. This will allow the system to reset itself. After two minutes, you can reconnect the Wall Pack Power Supply to the control center.

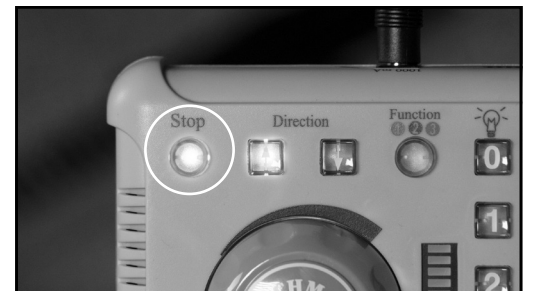


## PROGRAMMING A LOCOMOTIVE TO A SPECIFIC ADDRESS



Your *E-Z Command® Plus* Control Center features nine programmable control buttons or “addresses”. By default, most new DCC-equipped locomotives are factory-programmed to respond to commands on address 3.

Your *E-Z Command® Plus* Control Center will program the new address of any locomotive on track to which it is connected. Therefore, when programming the locomotive address, it must be the only locomotive on the track, or on an electrically isolated track section. [You can make a temporary programming track by using a separate terminal re-railer section with extra straight tracks (depending on the length of the locomotive)]. If you are programming a DCC equipped steam locomotive, please be sure to place both the locomotive and tender on the track with any supplied wiring between the locomotive and tender connected.



To program your locomotive, press and hold down any address button from 1 through 9, and press the STOP button, releasing both buttons at the same time. The STOP button will flash quickly to indicate that you are now in programming mode. You can now choose a new single-digit address for your locomotive by pressing the corresponding address button from 1 through 9. Once your chosen address has been selected, the locomotive MAY move slightly, and the STOP button will flash slowly. This indicates that the programming was successful. You can now press the STOP button again to exit programming mode.

If you wish to cancel the process while programming a locomotive, simply press address 0 or the FUNCTION button and then the STOP button at any time to exit. Your locomotive will remain at its original address. After your locomotives have been programmed, they will be available for individual control by pressing the numbered button assigned to them.

A removable two-column sheet is located between the numbered buttons so you can identify which locomotive is assigned to each button. For your convenience, extra blank sheets are included with your system.

*Please note that you can only assign single-digit numbers to your DCC-equipped locomotives with E-Z Command® Plus. If you have more than 9 locomotives to program, you can use the same address for multiple locomotives, providing they are either working in consist (see below) or not operating at the same time.*

## CONSISTING LOCOMOTIVES

With *E-Z Command® Plus*, you can simulate a real railroading practice known as “consisting”, where multiple locomotives are coupled together to operate a single train. You can replicate this practice on your layout by assigning multiple locomotives to the same address as described in the PROGRAMMING A LOCOMOTIVE TO A SPECIFIC ADDRESS section above.

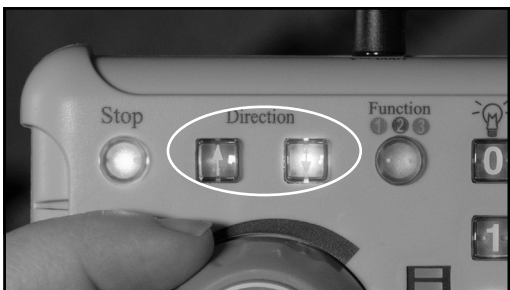
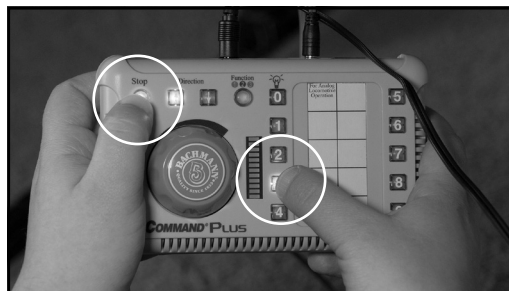
By default, all locomotives in a consist will face the same direction to operate together. However, if you wish to run locomotives back-to-back as can be found in some prototype operations as demonstrated in this image, take the locomotive(s) you wish to operate facing forwards off your layout, and follow the steps in the next section for the locomotive(s) still on the track ONLY. Once you have completed this process, you can add the forward-facing locomotive(s) back to your consist.



## PROGRAMMING FORWARD AND REVERSE OPERATION

With *E-Z Command® Plus* and other DCC systems, forward and reverse travel is relative to the locomotive, and not the track. Usually, your locomotive will be programmed by the manufacturer with forward and reverse directions already assigned correctly, but there may be occasions when you want to change this, such as when running two locomotives back-to-back in a consist, as described in the previous section.

To change the direction that the locomotive will recognize as being “forward”, first activate the locomotive by running it forward a short distance. Next, press and hold the locomotive’s current address button and the STOP button, then release both buttons simultaneously. The STOP button will flash quickly to signal that your control center is in programming mode. Now press the UNLIT direction button. Finally, press the locomotive’s address button, then press the STOP button to exit the programming mode. Once direction programming is complete, you can change the direction of travel for your locomotive or consist at any time by bringing it to a complete stop and pressing the appropriate direction button.



## RUNNING MULTIPLE LOCOMOTIVES

To run multiple independent locomotives simultaneously, follow the instructions in the PROGRAMMING A LOCOMOTIVE TO A SPECIFIC ADDRESS section to first assign their addresses. For illustrative purposes, let's assume you've assigned one locomotive to address 2 and a second to address 4. To begin, press the address 2 button and turn the control dial clockwise to power up the corresponding locomotive (multiple dial turns required to bring locomotive up to speed). Button 2 will now be lit, indicating that you are in control of this locomotive.

To acquire the locomotive on address 4, simply press the address 4 button. This button will now be lit, and the locomotive on address 2 will carry on running at its last speed and direction setting. To activate locomotive number 4, simply turn the control dial clockwise. Now locomotive 4 is active, and you can determine its speed and direction independently of locomotive 2. This process can be repeated for all additional locomotives you wish to operate at the same time.



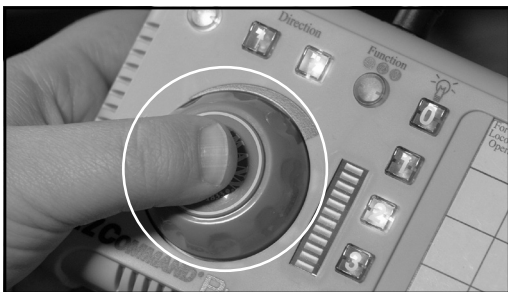
*If you experience performance issues when operating multiple locomotives or larger scales, you can use the **Bachmann #44910 E-Z Command® 5 Amp Power Booster** to increase the track current. This will allow a greater number of DCC locomotives to operate on your railroad, and is required for operation of O or Large scale trains.*

## ELECTRIC MOMENTUM

When using the speed control dial to start and stop your locomotive, your *E-Z Command® Plus* system operates your trains with a realistic acceleration and coasting effect called “Electric Momentum”. Rather than starting or stopping abruptly, the engine will accelerate and slow more gradually, replicating the characteristics of a prototype train. Make sure to plan carefully when slowing or stopping your locomotive, giving yourself enough distance to come to a safe stop.

## USING THE EMERGENCY STOP FEATURES

With the potential for multiple trains to operate independently of each other at the same time, the system relies on you to prevent crashes. To avoid a collision, simply press the STOP button to halt all trains currently in motion (the STOP button will flash slowly). Trains will resume with the same speed and direction when the STOP button is pressed for a second time, so it is important that you take appropriate steps to prevent a crash while you are in the “emergency stop” mode. Though some potential collisions may require you to physically reorient your trains for a crash to be averted, you can also send preventative commands to your locomotives, such as adjusting their speed or direction of travel, *while they are still in “emergency stop” mode*. Once the appropriate commands have been entered, you can press the STOP button again to resume operation.

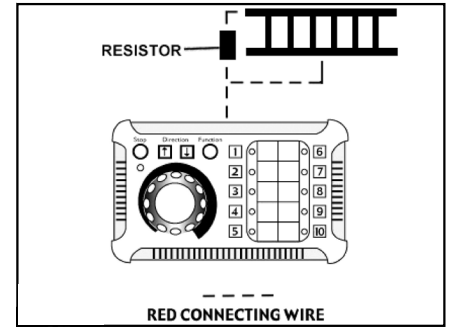


If you only require one locomotive to stop, rather than all trains in motion, simply select the desired locomotive from the address buttons, and press down on the speed control dial. This will send *the selected locomotive only* into “emergency stop” mode (the speed indicator will show zero power). While your locomotive is stopped you can change direction if necessary to resume operation of this locomotive, and turn the dial clockwise to bring the locomotive back up to speed.

## PROGRAMMING A USER-INSTALLED DCC DECODER WITH A PROGRAMMING TRACK

While locomotives purchased with DCC decoders installed can be programmed on the main track, a separate low-current programming track is required for programming locomotives with user-installed decoders. The low current of the programming track will protect the decoder if the installation was performed incorrectly.

To create a programming track, connect a resistor in series with one track wire to an isolated section of track. A 100ohm 10W 5% Wire-wound Resistor is recommended. Once you've constructed your isolated programming track, you're ready to program your locomotives with user-installed NMRA-compliant DCC decoders, using the same process as described in the PROGRAMMING A LOCOMOTIVE TO A SPECIFIC ADDRESS section.



## FUNCTION MODE

Like most DCC systems, *E-Z Command® Plus* features a function mode that enables you to control extra features such as sound and lighting effects that may be included with DCC locomotive or decoder products. There are 28 possible functions (plus headlight control) that can be activated for locomotive addresses 1 through 8, with 8 possible functions when operating under address 9 (plus headlight control). The number of usable functions will vary depending on the locomotive or decoder. See the back cover for a function chart.

To activate sound and lighting features, begin by pressing the FUNCTION button. The locomotive address which is currently active will blink, indicating that you are now in function mode. You will still be able to control the speed and direction of the active locomotive while in this mode.

You can now use the address buttons to select the various functions that may be available on your locomotive. If you are unsure which button activates the feature you are looking for, consult the instructions included with your locomotive.

There are three function pages, each denoted by a different color of the function button. The button will light up either green, blue, or red, depending on the selected page. If the function you are looking for has a value higher than 9, you can press and release the button up to three times to cycle through each page.

If the function you wish to use is assigned to the same number as the locomotive you are operating, you can still access this function. Once the master FUNCTION button has been pressed, you can select the same number button as assigned to the locomotive to access the function associated with it. The button will begin to flash between bright and dim, indicating that you are now using the function, in addition to the locomotive assigned to this number.

*Please note that you will not be able to program a new locomotive or switch control to a different locomotive while in function mode. To exit function mode, press and release the FUNCTION button to scroll through the three colors until the light is OFF.*



## STANDARD DC LOCOMOTIVE OPERATION

*E-Z Command® Plus* allows you to control up to nine DCC-equipped locomotives at the same time, and will also accommodate one of your favorite DC (analog) locomotives at a time. To operate a DC locomotive through your *E-Z Command® Plus* system, place it on the track, press address button 0 to activate it, and begin operation.

*Please note: Only one DC (analog) locomotive can be operated at a time. Be sure to monitor this locomotive closely, as some DC motors can be subject to overheating and potential damage when operated for long periods of time on DCC systems. Once you have finished operating your DC locomotive, it should be removed from your layout as it will continue to draw current and may overheat if left on the track. All lights on the model will be illuminated at all speeds, regardless of direction, while under E-Z Command® control.*

## OPERATING E-Z COMMAND® TURNOUTS

Up to eight individual Bachmann *E-Z Command*® Turnouts (or groups of turnouts) can be controlled with *E-Z Command*® Plus. Press address 9 on your control center, followed by the FUNCTION button to access turnout control mode. The FUNCTION button will light up green. Turnouts (or turnout groups) programmed to addresses 1 through 8 can now be toggled by pressing the assigned button.

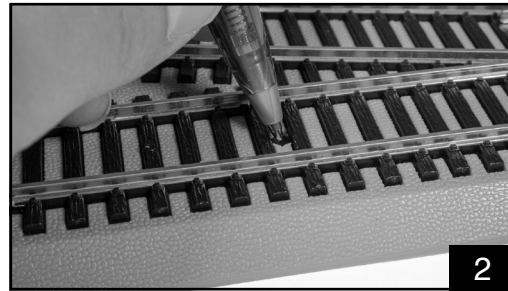
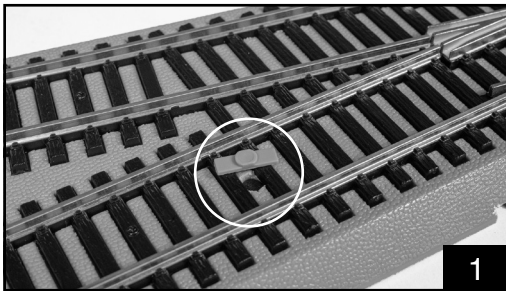
*Note: These instructions apply to Bachmann E-Z Command® Turnouts only, available for purchase separately. Please visit [www.bachmanntrains.com](http://www.bachmanntrains.com) to browse our full range of E-Z Command® DCC-equipped turnouts.*

## PROGRAMMING YOUR E-Z COMMAND® TURNOUTS

*Note: To avoid derailments, stop all locomotives on the track before beginning the programming process. Also remove any locomotive with address 9 from the track.*

The factory preset address for all *E-Z Command*® DCC turnouts is address 3. If you wish to program the DCC turnout to a different address, the procedure is as follows:

1. Press address 9, then press the FUNCTION button once. The FUNCTION button will turn green, indicating that your control center is in turnout control mode.
2. To access the programming button on your *E-Z Command*® Turnout, remove the programming button cover as shown in figure 1. Use a pen to press the programming button (figure 2) for two seconds. The turnout will toggle twice to indicate that it is in programming mode.



3. Choose an address from 1 through 8 that you wish to assign to your turnout. Once you have decided on an address, press the corresponding number button four times. The turnout will toggle four times to indicate that it has been programmed to this address.
4. If you have entered programming mode and cannot continue the programming process within two minutes, the turnout will toggle twice to indicate that the programming has been canceled. The turnout will retain its original address.

*Note: To cancel the turnout programming process while using your E-Z Command® Plus control center, simply press the STOP button. The turnout will retain its original address. To exit turnout control mode and return to locomotive control, press the FUNCTION button once.*

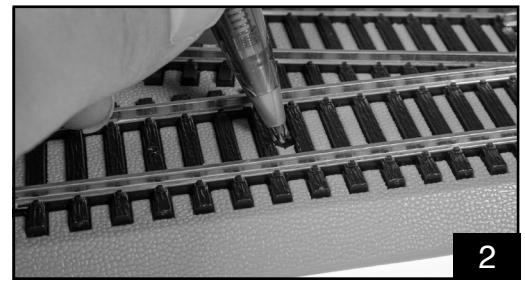
## DEFAULT TURNOUT POSITION

The default position is the turnout position when the *E-Z Command*® Plus Control Center is turned on. For all *E-Z Command*® Turnouts other than the #5 *Wye Turnout* (Item No. 44134) the factory-preset default position is the diverging track. For the #5 *Wye Turnout*, the factory preset default position is to the right. Please refer to the instructions included with your *E-Z Command*® turnout for a full list of default turnout positions.

If you wish to change the default position, the programming procedure is as follows:

1. Press address 9, then press the FUNCTION button once. The FUNCTION button will turn green, indicating that your control center is in turnout control mode. From here, select the turnout you wish to program by pressing the associated number button.

2. To access the programming button on your *E-Z Command*® Turnout, remove the programming button cover as shown in figure 1. Use a pen to press the programming button (figure 2) for two seconds. The turnout will toggle twice to indicate that it is in programming mode.



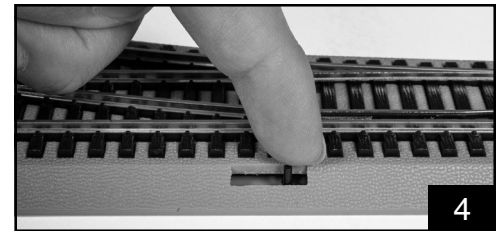
3. Press the UNLIT direction (arrow) button on your *E-Z Command*® Plus Control Center (figure 3). Then press the turnout's assigned address button four times. The turnout will toggle three to five times to reset the turnout to its new default position. Once the position has been programmed, you can control the turnout or select different turnouts with address buttons 1-8. You can return to locomotive control mode by pressing the FUNCTION button once.



*Note: The direction buttons are only used to program the default position of the E-Z Command*® turnout and will not toggle the position of the turnout.

## MANUAL TURNOUT OPERATION

All *E-Z Command*® Turnouts can also be toggled manually at any time by throwing the switches indicated in figure 4.



## USING THE WALK-AROUND COMPANION

For flexibility of movement around larger layouts, you can use the separately available *Bachmann #44907 Walk-Around Companion* alongside your *E-Z Command*® Plus Control Center. Simply use the I/O cable included with the Walk-Around Companion to connect to your control center.

*Please note that when using the Walk-Around Companion, you will be limited to 28-speed steps and functions FO-F4 for all 9 addresses.*

## TIPS & TROUBLESHOOTING

If your train doesn't respond to commands, make sure that:

- all wiring is correctly installed as shown
- the transformer is securely plugged into the wall socket
- the emergency stop button is lit (indicating that the control center is receiving power)
- the correct button for the train you wish to operate is active (button is lit)
- the control center is not in "emergency stop" mode (STOP button blinking)
- the speed control knob has been rotated clockwise if you used it to stop an individual locomotive

*Never connect another controller to track controlled by an E-Z Command*® Plus unit. Separate "power districts" can be created using separate units, but they must be double-isolated so that no train can bridge the joints between sections.

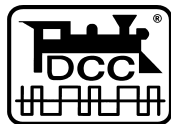
*Never use an electronic track cleaner near your E-Z Command*® system.

*Only plug a Bachmann E-Z Command*® device, or other devices approved explicitly by Bachmann, into the I/O port shown in this image. Other devices may have the same connector but are not necessarily compatible. If any device not designed for this port makes contact with the I/O port, it could damage your control center.



Function Button	LED Off (Select Address)	Green (Function Page 1)	Blue (Function Page 2) <i>Not for Address 9</i>	Red (Function Page 3) <i>Not for Address 9</i>
Button 0	Analog Locomotive Operation	Light Function	F10	F20
Button 1	Loco Address 1	F1	F11	F21
Button 2	Loco Address 2	F2	F12	F22
Button 3	Loco Address 3	F3	F13	F23
Button 4	Loco Address 4	F4	F14	F24
Button 5	Loco Address 5	F5	F15	F25
Button 6	Loco Address 6	F6	F16	F26
Button 7	Loco Address 7	F7	F17	F27
Button 8	Loco Address 8	F8	F18	F28
Button 9	Turnout Control or Loco Address 9	F9 <i>Not for Address 9</i>	F19	N/A

# E-Z COMMAND<sup>®</sup> PLUS



For more information about DCC and other aspects of model railroading,  
visit the National Model Railroad Association website at [www.nmra.org](http://www.nmra.org)

**Bachmann Industries, Inc.**  
**1400 East Erie Avenue**  
**Philadelphia, PA 19124 USA**  
**[www.bachmanntrains.com](http://www.bachmanntrains.com)**

**Telephone:** 215-533-1600 (for all countries)

**E-mail:** [service@bachmanntrains.com](mailto:service@bachmanntrains.com)

*Bachmann Trains... now that's the way to run a railroad!<sup>®</sup>*