

Limited One-Year Warranty

All M.T.H. products purchased from an Authorized M.T.H. Train Merchant are covered by this warranty.

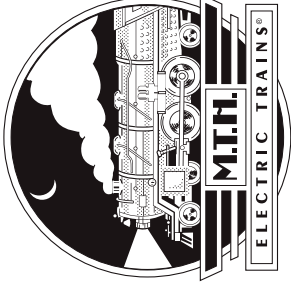
See our website at www.mth-railking.com or call 1-888-640-3700 to identify an Authorized M.T.H. Train Merchant near you.

M.T.H. products are warranted for one year from the date of purchase against defects in material or workmanship, excluding light bulbs and traction tires. We will repair or replace (at our option) the defective part without charge for the parts or labor, if the item is returned to M.T.H. Electric Trains within one year of the original date of purchase. This warranty does not cover damages caused by improper care, handling, or use. Transportation costs incurred by the customer are not covered under this warranty.

Items sent for repair must be accompanied by a return authorization number, a description of the problem, and the original sales receipt from an Authorized M.T.H. Train Merchant, which gives the date of purchase. Call 410-381-2580, fax 410-423-0009, or e-mail the Service Department at service@mth-railking.com to obtain a return authorization number.

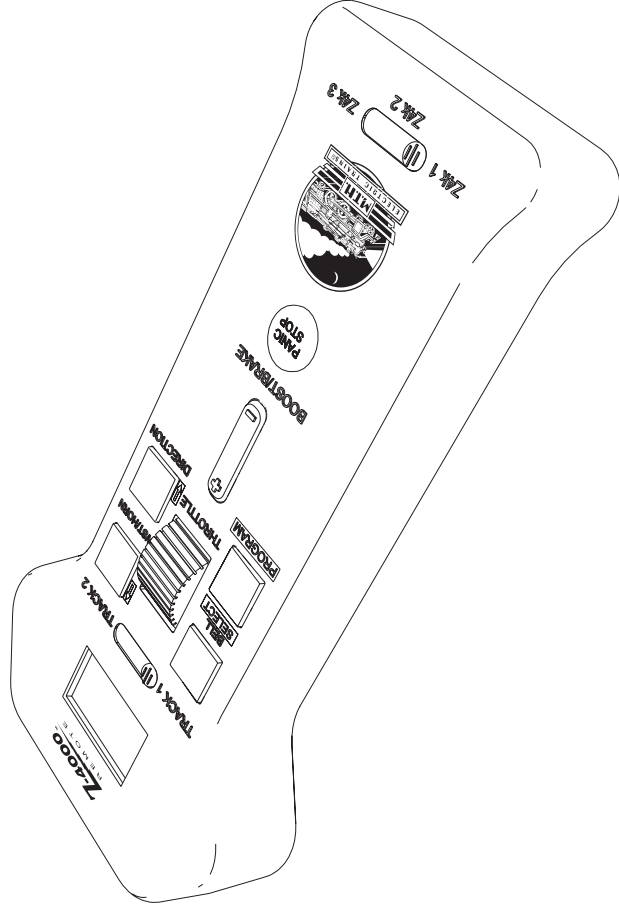
This warranty gives you specific legal rights, and you may have other rights that vary from state to state.

Service Department
M.T.H. Electric Trains
7020 Columbia Gateway Drive
Columbia MD 21046-1532



M.T.H. Electric Trains Z-4000 Remote Control System Operating Instructions

The M.T.H. Z-4000 Remote Control System uses 900Mhz technology to allow users remote control of their trains from up to 30 feet away. In order to operate the system, you will need at least one Z-4000 Transformer, a Z-4000 Remote Control Handheld Transmitter (requires 4 “AAA” batteries, not included), and a Z-4000 Receiver for each transformer (up to 3 transformers per handheld) you wish to control.



SET-UP AND OPERATION OF Z-4000 REMOTE

Setting-up your Remote Control Unit for the First Time:

1. Ensure the power to the Z-4000 transformer is OFF.
2. Open the battery door on the transmitter and install 4 “AAA” alkaline batteries.
3. Flip the transmitter’s track select switch to 1 and flip the transformer select switch to Z-4000 1. This will allow you to take control of Track 1 on Z-4000 1.
4. Connect the RJ-11 jack on the receiver to the back of the Z-4000 transformer you wish to use. There is no external power for the receiver; it receives its power from the transformer

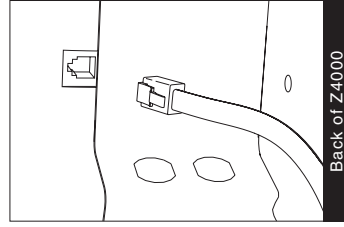


Fig. 1

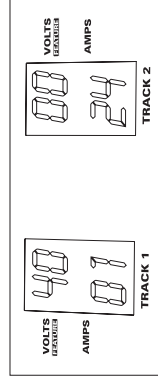
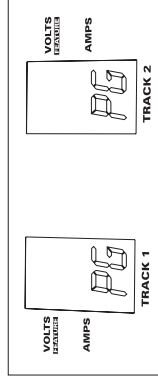


Fig. 2



5. Turn the power to the transformer ON.

6. When the transformer powers up, watch the transformer’s LED display. The transformer will display 40 00 (Fig. 1) in the volts window and 01 23 or 01 24 in the amps window. Approximately 3 seconds later the volts window will go blank and the amps window will briefly display PG PG (Fig. 2). While this is displayed, press the Panic Stop button, and you should see --- in the volts window (Fig. 3). Immediately following this, the transformer will display 0.0 0.0 in the volts window and RC RC in the amps window (Fig. 4). You now have remote control of Track 1 on Z-4000 1.

7. Roll the throttle wheel up to apply power to Track 1.

8. To operate Track 2 on the same transformer, you do not need to repeat the above steps. Simply flip the Track select switch to Track 2 and roll the throttle up to begin operation.

Note: You should repeat Set-Up step 6 only after you have replaced the batteries in the Z-4000 handheld transmitter, not each time you power up.

TROUBLESHOOTING - This section provides solutions to the most common problems you may find with your M.T.H. Remote Control System. If you find that your problem can’t be resolved with this manual, contact M.T.H. Service for Additional Assistance.

Symptom	Problem	Remedy
When I hit Panic Stop the train(s) don't stop.	You may have the Z-4000 select switch pointing to the wrong transformer.	Flip the Z-4000 select switch to the Z-4000 you want to control and hit the button again.
Two Z-4000s are doing the exact same thing, just like they are on the same channel.	In fact, both are on the same channel. This can happen if you swap receivers or remotes.	What you need to do is power off all your Z-4000s and then remove one of the batteries from the handheld. Now re-install the battery and ONE AT A TIME, power on and take control of your Z-4000s. Now power the Z-4000s off again and then ONE AT A TIME power on and take control of your Z-4000s. Repeat this three more times.
I can't control my Z-4000 at all.	You may have the Z-4000 select switch pointing to the wrong Z-4000.	Flip the Z-4000 select switch to the correct transformer and try again.
The horn sticks on.	There may be a problem with interference.	See the section entitled "A FEW WORDS ON 900Mhz."
I can't control one of the tracks.	The Track select switch may not be pointing to the correct track.	Try flipping the track select switch to the other track.
My remote seems to be unresponsive.	This is most likely because the remote is in Program mode. It could also be interference.	Look at the remote's LCD. If there is a flashing decimal point that means you are in Program mode. Press the Program button and you should now see the commanded voltage on the LCD. If it is still unresponsive, you may be experiencing interference. See "A FEW WORDS ON 900Mhz."
The LCD on the remote seems to be faded or keeps going blank.	Your batteries may be running low.	Try replacing the batteries with new ones

If you have multiple transformers, it will work the same on all of them.

There is no on/off switch on the handheld transmitter. It comes on when you touch the first button and times itself into power saver mode when it has not been used for five minutes.

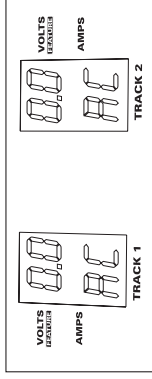


Fig. 5

CARE AND MAINTENANCE

Your M.T.H. Z-4000 Remote Control System should offer years of trouble-free service. There are a few things you can do to ensure trouble-free operation:

1. Promptly replace old batteries with fresh ones and remove batteries before storing.
2. Do not drop the remote. It can damage the delicate electronics inside.
3. Do not place your receiver next to a 900Mhz cordless telephone base.
4. Any attempt by anyone other than an authorized M.T.H. repair person to open and repair the Z-4000 Remote Control Handheld Transmitter, Receiver, or Trans former may result in the loss of warranty protection.

A FEW WORDS ON 900Mhz

Because your M.T.H. Remote Control System operates in the 900Mhz-frequency range, it allows for excellent reception from several feet away. There is, however, the potential for interference. If you follow these guidelines you can reduce the likelihood of interference:

1. If you have a 900Mhz cordless telephone base in the same room where you operate your M.T.H. remote you may want to move the telephone's base unit to another room and avoid operating the telephone's handset in the same room while running your trains.
2. You may be able to operate a 900Mhz DSS (Digital Spread Spectrum) telephone within the same room as your M.T.H. remote, as these telephones tend to offer less interference than analog 900Mhz telephones.
3. Among the telltale signs of interference from some source are that one of the functions, such as the horn, may stick on, or the throttle may seem temporarily ineffective.

Fig. 3

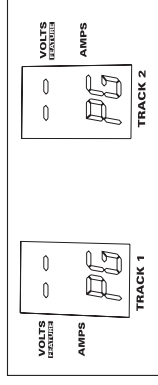
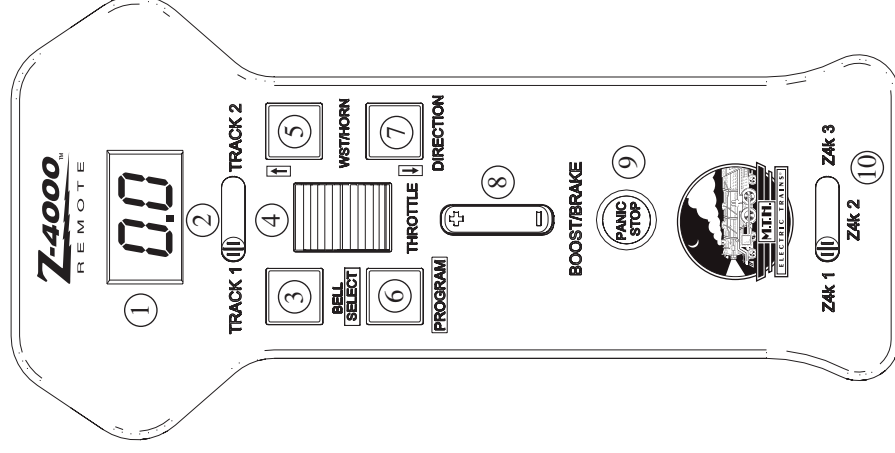
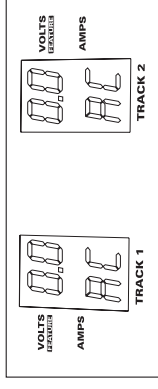


Fig. 4



- ① LCD Display
- ② Track Selection Switch
- ③ Bell Button
- ④ Throttle Wheel
- ⑤ Whistle/Horn Button
- ⑥ Program Button
- ⑦ Direction Button
- ⑧ Boost/Brake Button
- ⑨ Panic Stop Button
- ⑩ Transformer Selection Switch

Overview of the Controls of the Z4000 Remote.

Taking Remote Control of Additional Z-4000 Transformers:

Change the transformer select switch to Z-4000 2 or 3 and repeat steps 4, 5 and 6 above. Note: if you run more than one Z-4000 transformer, it is possible for the receivers to be on the same channel. This will cause undesired operation on one of the Z-4000 transformers. If this happens, you will need to power off all your Z-4000s, remove and re-install a battery in the transmitter (to interrupt and restore power), and retake control of your transformers one at a time. You may need to power off and re-take control several times.

Controlling One Transformer with Two Different Remote Transmitters:

Place the Track Select switch on the first transmitter to the track of your choosing and then complete steps 5 and 6. For the other transmitter, power the Z-4000 transformer off. Flip the second transmitter's Track Select switch to Track 2 and complete steps 5 and 6. You now have control of your Z-4000 transformer with two different transmitters.

Operating Train Features Using the Z-4000 Remote Control Handheld:

For operation of the Horn/Whistle, Bell, Direction, and Program buttons, see the Z-4000 transformer instructions. These buttons work the same way on the remote as on the transformer.

Brake - To slow the train or stop it momentarily, press and hold the Brake button. The train will slow to a stop. At the same time you will see the Z-4000 transformer indicated voltage drop to 5.0 volts. When you release the Brake button the train will speed up to the commanded voltage displayed on the remote and the Z-4000 transformer indicated voltage will increase to the same level.

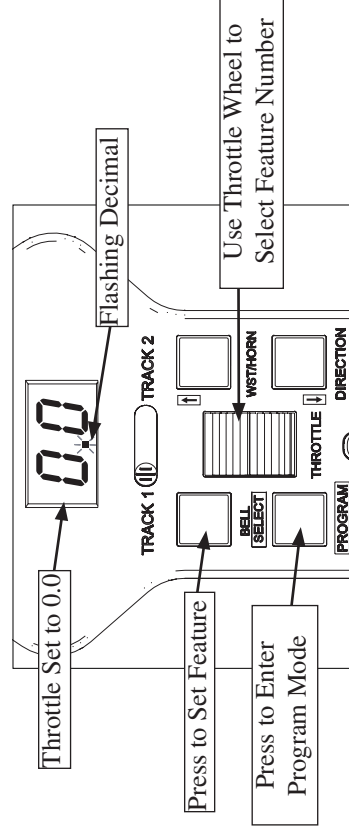
Boost Speed - To increase the speed momentarily, press and hold the Boost button. You will see the Z-4000 transformer indicated voltage increase to a maximum of 22. CAUTION: If you hold the Boost button too long it is possible to derail the train, especially around corners. Release the Boost button and the train will slow to its commanded voltage as displayed on the remote. The Z-4000 transformer indicated voltage will decrease to the same voltage.

If at any time you wish to immediately stop all trains running on a Z-4000 transformer, press the Panic Button. This will instantly send both track voltages to zero. Caution: this will affect only the selected Z-4000 transformer.

Programming Proto-Sound® Features Using the Z-4000 Remote Control Handheld:

Before you begin programming your Proto-Sound-equipped engine, please refer to the operating instructions that accompanied your engine for instruction and a list of available Reset features.

To program your Proto-Sound-equipped engine using the remote transmitter, set the commanded voltage to 0.0, allow the engine to enter "Reset" mode, and press the Program button. You will see a flashing decimal point on the remote's LCD. Using the throttle wheel, scroll the throttle up to the desired feature number and press the Bell/Select button. (Alternately, you may use the Horn/Whistle and Direction buttons to scroll up and down respectively to the feature number.) At this point, follow the steps as given for setting the selected feature in your locomotive's operating instructions, using the handheld transmitter's buttons rather than the transformer's. Note: When in Z-4000 Program Mode, the Bell/Select Button will perform the functions of the Whistle Button as indicated in the locomotive's operating instructions. When you have finished setting your preferences, press the Program button again to return to normal train control. The commanded voltage numbers will re-appear in the LCD screens and the decimal will stop flashing.



Regaining control with the Z-4000 Transformer:

To gain control with the Z-4000 transformer, press any button on the transformer and control will be given back to both tracks on that transformer.

If you would like to preset a voltage on the tracks so that when you gain control with the transformer your trains continue to run, follow these instructions:

1. Gain control with the remote control (see steps 4 and 5 in the SETUP section).
2. Gain control back with the transformer by pushing any button on the Z-4000 transformer (this will cause the voltage to drop to zero initially).
3. Use the throttles on the Z-4000 transformer to set the track voltage(s) to whatever you desire. When you wish to return control to the handheld, press any button on the remote or scroll the throttle on the remote. You should now see RC RC in the amps window, indicating that the remote has regained control (Fig. 5). The voltage now displayed is the commanded voltage from the remote. The next time you take control with the Z-4000 transformer by pushing any button on the transformer, it will run the train(s) at the voltage you set with the Z-4000 transformer throttles. This allows you to switch between remote control and local control and still have the train(s) running at a commanded voltage.