Restore T5000 Original Factory Settings

There are many settings of the throttle that are remembered, even if the power switch is turned off and the batteries are removed. However, at any time, you may force the throttle back to its original factory settings, just as you received it. When the FACTORY RESET command is issued, all memory is erased and the defaults are reloaded.

Step 1: Push MENU twice.

Step 2: If you are sure you wish to restore the original factory settings, push the 7 key.

When you push the 7 key, the AIRWIRE900 splash screen appears followed by the normal home page. The frequency and address are now back to their original factory settings. The table below shows the complete set of factory reset values.

Push MENU Key Twice

```
4. SVC PROGRAM
5. AUTO OFF TIMER
6. TRANSMIT POWER
7. FACTORY RESET
```

Item	Default	Item	Default
Loco Memory	Cleared	Consist Memory	Cleared
Loco Address	3	Direction	Forward
Functions	All Off	Transmit Freq	0
Loco Speed	000	Speed Steps	28
Power Level	5	Shutoff timer	15 min

Power Off - What Happens, What's Remembered

When the throttle is turned off, or if it automatically turns off, the following tasks are performed for the active locomotive, each locomotive in loco memory and the consist in consist memory: speed is set to 0, direction is set to forward, all functions are set to off. The backlight is also turned off. Throttle settings such as power level, and the auto-off timer are all saved. The T5000 memory is nonvolatile which means data is stored even if the batteries are removed.

Warning

Absolutely nothing can be mounted to the top area of the throttle's case or on the bottom of the case. Do not screw, drill or mount items such as lanyards to the throttle's top or bottom. This will severely degrade the throttle's performance and range and may damage the circuit board.

A better method to mount something like a lanyard is to use the optional belt-clip. Attach the lanyard and mounting hardware to the clip. You may drill and or trim the clip if needed. Once the lanyard is attached, then mount it to the throttle's case using the provided screws.

If Your Throttle Needs Service

Visit the CVP website and click on the service and support link. Follow the instructions for obtaining service for any of your throttle. You must have an RMA before sending it. Be sure to include a copy of your invoice or your invoice number.

r1a T5000 010614

T5000 Wireless Throttle User's Guide

For All Models Of The AirWire900 T5000 Throttle

Caution

Never press or push on the display. Do not drop the throttle. Doing so can crack the glass which will destroy the display. That damage is not covered by warranty.

AirWire™ 900

Battery Installation/Using Rechargeables

Use AAA-Lithium for longest battery life. The T5000 requires two AAA batteries. Use only 1.5V rated batteries. For best results, the Energizer e2 L92BP battery provides nearly 3 times the life of standard alkalines.

Rechargeable batteries can also be used. The rechargeables must be rated at about 1.5 volts each, but will have only about half the life of regular batteries. An external charger must be used.

Maximum battery voltage for each battery is 1.8V. Higher voltages will destroy the throttle.

Battery lifetime depends on several factors. With the original factory settings and a fresh set of high quality alkaline batteries, expect about 40 hours of use. Factors that decrease battery lifetime are a longer time before auto-shutoff, high transmit power settings, and backlight use. Long periods of backlight operation at a high power level setting will significantly shorten the battery life.

Door lifts off the box

Bottom of Box
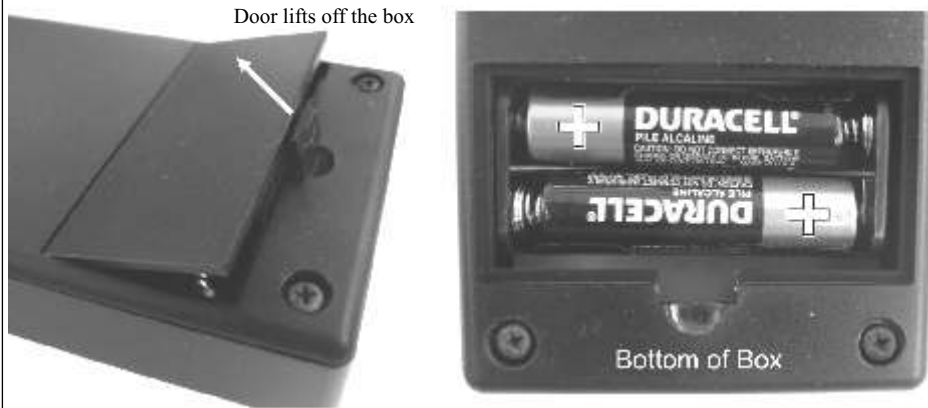
Correct Battery Orientation Is Mandatory.

If the batteries are installed incorrectly, the throttle will not operate, the batteries will rapidly discharge and there is danger of battery leakage.

As soon as batteries are installed, the throttle will turn on. Check for the normal startup display. If the display does not appear immediately, remove the batteries and reinsert them correctly.

spring

spring   Bottom of Box
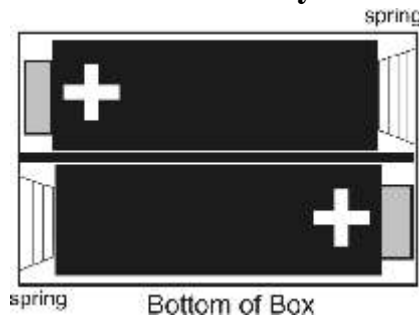
Remove Batteries Before Storing Throttle

Always remove the batteries before storing the throttle for long periods of time. This prevents corrosion of the spring contacts and insures against battery leakage. All throttle settings are stored even with the batteries removed.

Tips For Best Throttle Performance

The T5000 Throttle operates in an unlicenced band shared by many other transmitters. These transmitters can and will create interference causing intermittent throttle operation or complete failure of one or more of your throttle's frequencies. The sources of these external interfering signals can be from your own home, from adjacent homes, nearby businesses or noisy electrical motors including your own locomotives.

Interfering Transmitters. Here's a list of devices known to have caused interference to the throttle: of course other throttles on the same frequency, wireless devices attached to computers, TV remote controls, cordless telephones, wireless home or business alarm systems, baby monitors, unlicenced personal communication devices, lawn sprinkler controllers, remote starter switches, cordless light switches, outdoor lighting controllers, toys, wireless headphones, and games.

If you find a strong interfering signal on one or more of your frequencies, don't use those frequencies; pick a different frequency and try it.

Keep your hand away from the top edge of the box. The internal antenna is near this area and the presence of your hand can affect the throttles range.

Use Fresh Batteries. Weak batteries can affect the transmission range. When the battery monitor shows almost empty, replace the batteries.

Don't Set Power Levels To Maximum without a reason. Not only does the throttle eat batteries, a high power level may cause a distant throttle not to be heard. Use the lowest power level that is compatible with your layout and operation.

Troubleshooting Tips

Should you ever experience unusual operation or no operation, check the following symptoms and causes to determine and fix your source of problems. In most cases, the problem will be caused by something simple.

Symptoms Caused By Reversed Batteries

- Batteries are hot   - Throttle is dead

Note that reversed batteries will either discharge very quickly into each other or discharge through the throttle protection circuit. In either case, the batteries will be drained in less than 15 minutes. Install new batteries and make sure the orientation matches the picture inside the compartment.

Train Won't Run [but had been running]

- Check throttle's decoder address   - Check the throttle's frequency
- Check throttle's power level   - Make sure train is powered on;
- Move closer to the train   - Check train batteries

Motion and Sound Are Not Working Together

This is most commonly caused by accidentally changing the locomotive address but not the sound decoder address. Reprogram them as described in the decoder manual.

Forgotten Decoder Frequency

If the G3 decoder or the newer style of Drop-In decoder no longer responds to what you believe is the correct frequency, you may need to reset the decoder frequency. For detailed instructions on resetting the decoder frequency, see the appropriate decoder manual.

Storing And Recalling A Consist From Memory

To store consist speed and direction: Push the CONS key twice to store a snapshot a running consist. This will store its speed, direction, frequency and lead locomotive function status.

To recall a stored consist: Push CONS and then #. The stored consist becomes active with all of its original settings restored.

When the T5000 is powered off, the consist's speed is set to 0 and all functions are set to off.

Consist Editing

Consist Editing: Once built, a consist can be modified. The consist does not have to be active (showing on the home page) to modify it. Push the CONS key one time to edit an existing consist. You will know there is a consist because the "Build consist?" message does not appear and there is a new icon below the horizontal line. The icon is called the "scroll" icon. Use the speed knob to scroll through the locomotives in the consist.

LEAD **1234**
DIRECTION ▶
*ESC ↻ ENT#
Scroll Icon

Delete Entire Consist removes all of the locomotives in a consist. With the **lead unit** showing, push 0. Notice the lead locomotive number changes to dashes. To cancel the deletion, push ESC. Otherwise push # to delete the consist and return to the home page.

LEAD ____
DIRECTION ▶
*ESC ↻ ENT#

Delete One Loco in the consist is similar except the locomotive to be deleted is showing. Push CONS to edit. Find the locomotive to delete. When the loco address to be deleted is shown, press 0 and push #. Notice the numbers are replaced by dashes when you push 0. The home page will appear after the loco is deleted. If you made a mistake, push * to cancel and time before you push #.

LOCO3 ____
DIRECTION ▶
*ESC ↻ ENT#

To Add Locomotive Or Overwrite Existing Locomotive in a consist is easy. Push CONS to edit. Scroll to either a locomotive number you don't want or to an empty location shown with dashes. Enter the new locomotive number, set the direction and press #. The new locomotive is now added to the consist.
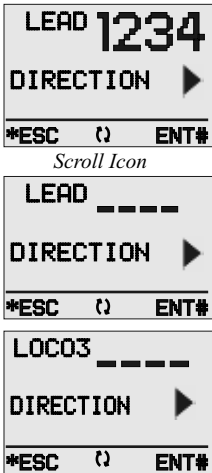
Consist Flipping

Consist Flip: Flipping a consist is handy if you use point-to-point operation. To flip a consist, push the direction key while in the consist edit mode. For example, the consist below moves to the right when the forward direction is selected.

Forward →

| 4400 | 3300 | 5678 | 1234 |
| End | Loco3 | Loco2 | Lead |
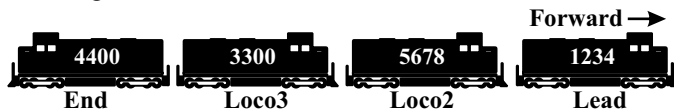
However, at the end of its run, the lead unit, 1234, is no longer pointing in the correct direction. Since you can't turn the consist, you may invoke the Flip command. When invoked, the end locomotive becomes the lead locomotive with forward now being in the opposite direction. The consist list is reordered and the new lead locomotive number now appears on the home page.

← Forward

| 4400 | 3300 | 5678 | 1234 |
| Lead | Loco2 | Loco3 | End |
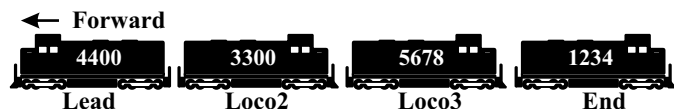
Wireless Throttle Keyboard Familiarization - Power On/Off

Your new throttle is easy to learn and easy to use with the most important information continuously displayed during normal operation as shown below. This specific display is called the home page.

Although you may not need this guide, you should at least give it a quick review. Inside, you will find additional tips and details to help you obtain the most from your new throttle.

To Turn On and Off The Throttle: If the throttle is off, push and release MENU. To turn off the throttle, push and release MENU then push and release the 1 key.

Power-On Access Menu

Set Loco Speed to Zero Access Accessory Control

Speed Control Direction Control

*, Escape, Exit, or Cancel, Functions 10-28

Loco Memory Store & Recall

Consist Edit/Store & Recall Backlight On/Off

To Change Direction, *Push Down* on the Knob

Do not press or push on the display. Do not drop the throttle. Doing so can crack the glass which will destroy it. That damage is not covered by the warranty.

Enter, #, or Yes

Special Push And Hold Keys That Access Additional Features

The following two features are accessed by pushing and holding the indicated key. Note that the backlight contrast enhancement is only available on the T5000BL model.

Stop - Push and hold **STOP** to zero the speed of the active locomotive.

Backlight control - Push and hold **CONS** to turn on, push and hold to turn off.

Some Helpful Terms and Tips

- Home Page (shown above) is the screen display shown during locomotive operation.

- Escape or Cancel is always done with the * key, referred to as the star key.

- The # key is always used to start and end the entry of a loco address.

- The active loco address is the loco address shown on the home page.

- The MENU key access all of the throttle setup and option selections.
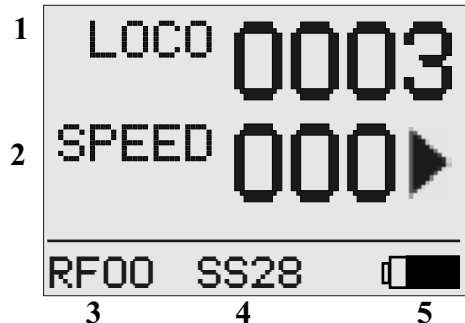
Getting To Know Your T5000 Display

Power On - Splash Screen

```
AIRWIRE
900
V15  ©CVP PRODUCTS
```

Push and release the green key in the upper left hand corner, labeled PWR/MENU. When power is first turned on, this is the first screen that appears and is called the "splash screen.".

The splash screen shows the AIRWIRE logo along with the software version number in the lower left corner.

The Home Page Tour

```
1  LOCO  0003        7
2  SPEED 000  ▶      6
   RF00  SS28  ▮
   3     4     5
```

This is the "home" page. This one page shows all of the important items being controlled from the throttle.

The loco's decoder address shown is called the active address. All speed, direction and function commands go to this address.

Each major section of the display is numbered for use in the explanations below.

1 This shows the type of equipment being controlled. The options are LOCOmotive, CONSist, or ACCessorY.

2 This line shows the speed of the locomotive or consist. The number shown is based on the speed steps in use. For example, for 28 speed steps, this number ranges from 000-off to 028-full speed.

3 This is the current radio frequency [RF] being used. The numbers range from 0 to 16 for a total of 17 unique radio frequencies. The frequency is stored with the locomotive number.

4 This number shows the number of speed steps being used. This number indicates how many steps exist between off and full speed. In this case, the factory default, there are 28 steps from off to full speed. It is the decoder that interprets the transmitted speed step and applies an appropriate voltage to the motor.

5 The battery charge indicator which is similar to your car's fuel gauge. It is solid black for a fresh set of new AAA alkaline cells. It shows just an outline when the batteries are drained and must be replaced. In this example, the battery has used about 1/4th of its capacity.

6 The direction arrow points to the right for forward and to the left for reverse relative to the cab of the locomotive. In other words, it is as if you were sitting in the locomotive cab. In this picture, locomotive 3 will move forward if the speed is increased.

7 The active locomotive or consist address. 0000 can not be used.

Building A New Multi-Unit Locomotive Consist (CONS)

Building a new multi-unit consist with up to 4 locomotives is easy and only takes a few keystrokes. *All locomotives must be on the same frequency to build a consist. The frequency is stored with the consist.*

Note: one consist can be stored, edited and recalled.

```
LOCO  1234
SPEED 000 ▶
RF00  SS28  ▮
```

Step 1: Make the front or lead locomotive active. Just enter its address on the home page. Whatever locomotive address is shown on the home page becomes the lead or first locomotive in a consist. Be sure to set the direction to forward and the speed to 0. In the example, loco 1234 will be the head loco.

```
CONS  1234
BUILD CONSIST?
*ESC        ENT#
```

Step 2: Quickly push and release CONS and verify that the CONS address shown is your lead locomotive address. If not, push ESC and key in the proper address. Otherwise, push # to answer YES to the question. If you push and hold the CONS key, the backlight will turn on.

> *Push ESC anytime during the building of a consist to cancel and exit without saving anything.*

```
LOCO2 5678
DIRECTION  ▶
*ESC        ENT#
```

Step 3: Enter the 2nd loco address. If the loco is backwards, relative to the lead unit, change its direction by pushing on the speed knob. Unless changed, forward direction is assumed. Once the number and the direction are entered, push #.

**Step 4:** Now load the 3rd locomotive using the same sequence as before.

> *During the build consist mode, you will not be able to back up. If you think you have an error, wait until you have loaded all of the locomotives and then EDIT the consist, which is describe in the next section.*

```
LOCO3 3300
DIRECTION  ▶
*ESC        ENT#
```

Step 5: When you reach the 4th locomotive, notice the display shows END which means the end loco or the last locomotive. Up to 4 locomotives can be in a consist. Enter the number, set the direction, (reverse for this one) and then push #. Notice the prompt asking if you wish to activate the consist.

```
END  4400
ACTIVATE CONSIST?
*ESC      -->CONS
```

Step 6: You have two options at this point, push the CONS key to activate the Consist or push the # key to store the consist without activation. In either case, the newly built consist is stored in Consist memory.

If activated, the home page now shows CONS and the lead locomotive number.

If the consist has only 2 or 3 locos, push the # key twice after the last loco is entered to indicate there are no more entries. This brings up the ACTIVATE CONSIST question where you can either activate or store the consist.

```
CONS  1234
SPEED 000 ▶
RF00  SS28  ▮
```
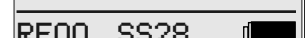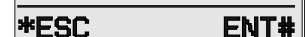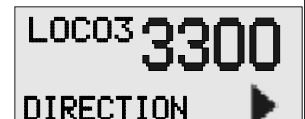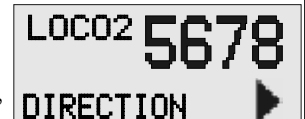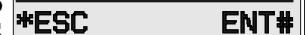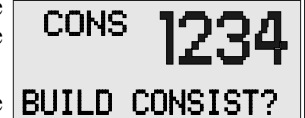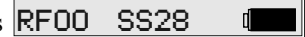
Decoder Programming - Service & Ops Mode

Programming of the locomotive decoder allows you to change how it responds to the throttle commands. When you program a decoder, you are giving it specific values to be stored in unique locations called Configuration Variables or CV. There are many CVs in locomotive decoders. But, not all decoders offer the same CVs or may have limits on values allowed for a CV. Be sure to consult your decoder's User's Guide for the list of CV numbers and the range of CV values.

There are two types of decoder programming OPS and Service.

OPS Mode is accessed from MENU page-1, option 0. Programming commands will only be sent to the loco address showing on the home page. Do not use OPS mode programming to change the active decoder's address.

Service Mode is accessed from MENU page-2, option 4. It is used to program all of the decoder's parameters including its address. Take care to insure no other locomotive decoders are on and sharing the same frequency because they too will be programed. You should turn off all other decoders just in case.

Programming is simple once you know the CV number and the desired CV value. Regardless of which programming mode is used, the exact same key sequence and the pages look the same except for the top line that shows either SV or OP as a reminder of which mode is being used.

Service Mode Example

This example shows the changing of CV1 which is the decoder's address CV. Turn off all other locomotives before using service mode programming. The SV-CV is a reminder you are in service mode.

Push MENU, MENU, 4, to start. Enter the CV number, 1 for the address, and push #.
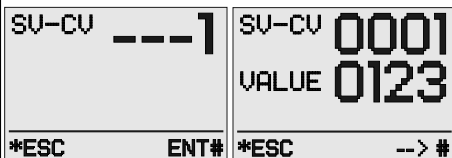
Now key in the value which will be 123 for this example. Finally, push #. The moment the # key is pushed, the decoder will chirp or jump (depends on the decoder) which indicates it has received the command.

Push # to change another CV. This erases the CV number and waits for a new CV number. That is why there is --> in front of the #.

Push * to exit back to the home page.

OPS Mode Example

This example shows CV2 to be changed, which is the motor start CV. First, make sure the desired locomotive's address is on the home page. The OP-CV is a reminder you are in OPS mode.

Push MENU, 0 to select OPS mode. Enter the CV number, 2, for this example and push #.
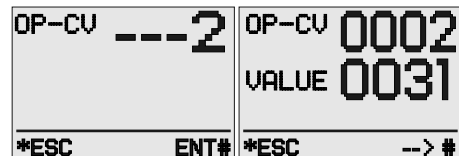
Enter the desired value, 31 for this example. Now push #. The moment the # key is pushed, the new value is sent to the decoder. Some decoders may chirp but not always. If changing a CV related to motion, speed and direction controls remain operational even if in the programming mode. This allows you to try out the new setting.

Push # to change another CV or * to exit.

> See your decoder manual for a list of available CVs and their range of values. Not all decoders have the same CVs nor the same meaning. When in doubt, read the decoder manual.

Quick-Start: Entering A Locomotive Address

Step 1: Push the # key. This brings up the address entry page. If you wish to cancel, with no changes, push the * key.

Step 2: Key in the numbers of the locomotive decoder. Leading zeroes are not required. For this example, the address is 1234. The display will show each number as it is pressed, with previous numbers moving to the left. If an incorrect number is entered, just continue and enter the proper 4 digits ; no need to start over because **only the last 4 entries** are used when the # key is pushed. You can still cancel by pushing the * key without any changes.

Step 3: Push the # key again to tell the throttle to use the address showing on the display. The speed display appears with dashes, followed by 000. Wait until you see the zeroes before changing the speed.

Controlling Loco's Speed and Direction

Speed control is with the big knob. Turn the knob clockwise to increase the speed of the locomotive. Turn the knob counter-clockwise to decrease the speed. The speed control is a continuously turning rotary encoder. But, unlike some speed controllers, it does not use a center-off position. Turning the speed control clockwise, increases speed until the maximum value is reached. Turning the control counterclockwise, decreases speed until the 0 speed is reached. The displayed speed is actually a speed step with the maximum number of steps show in the bottom line; 28 in this case. Your decoder is what decides how to interpret the speed step. See your decoder manual for more details on speed steps.

Direction control is a push switch built into the speed knob. Push down on the knob's top and release it to change directions. Notice the direction arrow changes. A right facing direction arrow indicates FORWARD relative to the locomotive's cab. A left facing direction arrow indicates REVERSE direction, relative to the cab. The direction arrow does not indicate the physical direction of movement.

The top image to the right shows loco 3 is set for speed step 8 and for the reverse direction.

The bottom image to the right shows loco-3 is set for speed step 20 in the forward direction.

Stop Loco - Set Speed To Zero

Push and hold the yellow key to immediately set the speed value to zero. The locomotive will come to a stop providing it receives the command.

The locomotive decoder's deceleration rate will determine how quickly it comes to a stop.

> This is not a true-emergency stop feature. A true-emgergency stop would instantly halt the motor which might break the loco's relatively fragile gear-train especially if it is pulling a heavy load.

Controlling Decoder Functions

The T5000 throttle controls functions F0 thru F28 which are the standard NMRA-DCC functions supported by the AIRWIRE System. Also, it is the locomotive decoder that sets the total number of available functions. Check your decoder manual for what functions are available.

F0 to F9: When the home page is being displayed, each of the T5000 number keys are also their respective DCC function keys. For example, the 0 key is F0, the 1 key is F1, the 2 key is assigned to F2, etc. Just push the key to activate the function. Except for F2, all function controls are latching. This means that the "activate" command is sent when the key is first pushed and released. Pressing and releasing the key a second time sends the "deactivate" command. When a function key is pressed, the function number momentarily replaces the speed value. A few seconds after the function key is released, the speed value reappears.

F10 to F19: Push the red * key once. Notice that the display shows F1_ with a blinking underscore. Push the second number to finish.

F20 to F28: Push the red * key twice. Notice that the display shows F2_ with a blinking underscore. Push the second number to finish.

F2 is special: By convention, F2 is almost universally assigned to a horn or whistle momentary function. Pressing and holding the F2 key activates the horn or whistle. The activate or "blow" command is sent as long as the key is pressed. Releasing F2 turns off the horn or whistle off.

Backlight Control On Some Models

If your throttle model comes with the LED backlight, push and hold the CONS key to turn on the backlight. This will enhance the display contrast in a dark room. Push and hold the same key to turn it off.

Consider using the backlight only when you really need it. Leaving the backlight on continuously will shorten the battery lifetime by about 20%.

The backlight turns off when the throttle auto-off timer turns off.

Battery Monitor

The T5000 home page always shows the present status of the battery using the battery shaped icon in the lower right hand corner.

Brand new alkaline batteries color the icon black. As the batteries discharge, the black area shrinks. When only the battery outline shows, your batteries are within a few minutes of their end of life.

To prevent loss of control, bring all operating locomotives controlled by this throttle to a stop as soon as possible. Once all locomotives have been stopped, turn off the throttle and replace the batteries.

If the batteries are completely exhausted, the screen shows the message **SYSTEM LOCKOUT - CHANGE BATTERIES**. The throttle **cannot** be used as long as this message is showing.

Only a fresh set of batteries will clear the message and allow normal throttle operation.
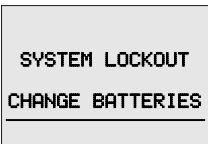
Changing Throttle's Speed Steps

Your throttle's rotary speed control can be set to use one of 3 different settings to change the number of steps from off to full speed. These are called speed steps. The throttle's speed display shows the step number being transmitted. The locomotive decoder determines the motor speed for a given speed step. Speed 000 is always stop or off.

You may choose 14, 28 or 128 steps of resolution. A setting of 28 steps is about one full revolution of the knob. This setting allows quick and wide speed changes for mainline operations with minimal knob turning. The factory default is 28 steps.

Push MENU Key Once

```
0.  OPS PROGRAM
1.  POWER OFF
2.  SS SELECT
3.  FREQ SELECT
```

Use 128 steps for precision speed control. The downside is that it will take about 10 turns of the knob to go from off to full speed. You will soon find the usefulness of the STOP button in this mode.

*Changing the throttle's speed step setting **DOES NOT** change the decoder's internal speed step setting.*

```
1.  14 STEPS
2.  28 STEPS
3.  128 STEPS
```

Step 1: Push MENU followed by the 2 key.

Step 2: Push the key for the desired number of steps. Once the selection is made, the home page reappears.

Controlling Accessory Decoders

Like locomotive decoders, accessory decoders, such as CVP's Linker and Activator have addresses and functions which may be controlled from the T5000 throttle. The accessory decoder address range is 1 to 2048. Selecting and controlling accessory decoders is easy and you can still control your locomotive's speed and direction while throwing turnouts.

Step 1: Quickly press and release the yellow STOP/ACCY key. This brings up the Accessory control page. Note: release the key quickly since holding it down invokes the STOP command.

```
ACCY  ----

*ESC         ENT#
```

Step 2: Enter the accessory decoder's address. Leading zeroes are not needed. And similar to the locomotive address, what you see in the display is the address to be used. So if you make a mistake, just keep going until the address is what you want. Push the # key to tell the throttle you are done entering the address.

Step 3: The display now shows the two keys for controlling the decoder. Pushing the 3 key turns on or throws the turnout normal. Pushing the 1 key turns on or throws the turnout reverse.

```
ACCY  0001

1-R/OFF    N/ON-3
*ESC        --> #
```

To use another address, push #. This erases the ACCY address and shows dashes. That is why there is --> in front of the #.

To exit the ACCY mode, simply push *.

Accessory Decoder activation commands are transmitted once. If the transmission is jammed, the switch may not throw. Push the same key again to retransmit the activation command.

Note: Your installation and wiring of the switch machines will determine the actual direction the switch throws. If a turnout throws the wrong direction reverse the Activator's output wires going to the turnout.
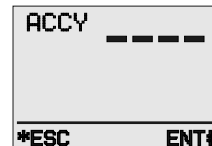
Changing T5000 Transmitted Power Level

The T5000 throttle offers 11 different transmit power levels from 0 to 10. These allow you to select the best combination of range and battery life. The factory setting for the power level is a value of 5 which is about the same power and range as the older T9000 and RF1300 wireless throttles.

Lower power levels values decrease the throttle's range but provide an increase in battery life. Higher power levels increase the throttles range but at the expense of battery life.

The power level can be changed at any time and the change takes effect immediately. Experiment with the POWER LEVEL value and decide which works best for your operation and layout.

For group operation where there are many throttles, set the power level to 0. This give less than 5 to 10 feet of range, allowing distant throttles to operate on the same frequency with minimal interference.

Step 1: Push MENU twice and then the 6 key.

Step 2: Enter in your choice for the power level from the table below. Push # to conclude entry and return to the home page.

The battery lifetimes are estimates based on power level and use of high quality, high energy batteries. Range estimates are not provided simply because it depends on a large number of factors over which we have no control.

Power Level	Est. Battery Life	Range Notes
0	65 hrs	Shortest range ~ 3 feet
1	64 hrs	-
2	62 hrs	-
3	59 hrs	-
4	55 hrs	-
5	50 hrs	Range = T9000E/RF1300
6	46 hrs	-
7	41 hrs	-
8	36 hrs	-
9	32 hrs	-
10	29 hrs	Longest Range

Push MENU Twice

```
4. SVC PROGRAM
5. AUTO OFF TIMER
6. TRANSMIT POWER
7. FACTORY RESET


  POWER
                 - -
  LEVEL


* ESC          ENT #
```

Backlight And Battery Life
The battery life time will be shortened with frequent use of the LED backlight.

Changing Automatic Power-Off Timer

AUTOSHUT OFF TIMER: This timer sets the duration before the throttle automatically powers down. The timer range is 1 minute to 9,999 minutes. The factory default is 15 minutes.

The throttle will not shut off if the <u>active</u> *(not stored)* loco/consist speed is something other than zero. The timer is paused until the speed is equal to zero. This prevents inadvertent shut off while a train is in motion.

We recommend that the timer be set for a time that represents the length of an average operating session.

Always instruct your operators to turn off the throttle before setting it down.

Following these guidelines will insure you obtain maximum life from the batteries.

Push MENU Twice

```
4. SVC PROGRAM
5. AUTO OFF TIMER
6. TRANSMIT POWER
7. FACTORY RESET


  TIME
               ----
  MIN.


* ESC          ENT #
```

Storing And Recalling Locomotives From Memory

Note: You do not have to store a locomotive in memory to use it.

Unlike other systems, the moment a locomotive address is keyed into the throttle, it is active and you are in control of the locomotive.

Your T5000 throttle's locomotive memory is used to store running locomotives that can be later recalled with the same speed, direction and frequency showing on the display as when they were first stored. In addition, when a locomotive address is stored, its frequency, speed/direction and function status are also stored.

There are 8 memory slots into which you can store locomotive addresses for later recall. The 8 unique locomotive address memory slots are numbered from 1 through 8. If a 9th locomotive is put into memory, the oldest entry, #1, is automatically deleted to make room for the newest address. Unused slots are shown with dashes.

Storing The Active Loco Address and Its Information Into Memory

Pushing the LOCO/MEM key twice stores a "snapshot" of the active locomotive's address, speed, and direction into the LOCO memory at the first available address. This can be done at any time and you may repeat the store command on the same address as often as desired. Doing so does not use additional memory slots.

Recalling And Making Active A Loco In Memory

Push LOCO/MEM and rotate the speed knob to scroll through the 8 slots. Each memory slot is labeled LOCO1, LOCO2, etc. When the desired loco address is found, press # to recall the address and restore the loco's address, original speed, number of speed steps used and its original direction. Also recalled will be the status of the functions as well as the radio frequency if different.

Note that the center icon on the bottom line is the *scroll* icon and is your cue to use the speed knob to look through the memory slots.

Deleting A Stored Loco From Memory

Push LOCO, and rotate the speed knob to the loco address to be deleted. When the address is found, press 0 followed by #. This will replace the address with dashes and exit to the home page.

*Note: **When the throttle is turned off,** speed is set to 0, direction is set to forward, and all functions are set to off. Other throttle settings such as power level, and the auto-off timer are also saved. The T5000 memory is nonvolatile which means data is stored even if the batteries are removed.*

Stored Loco Number and Frequency Are Linked
When storing a loco number or a consist, the transmitter frequency is automatically stored as well. Therefore, when a loco or consist is recalled from memory, the T5000 throttle's transmitter is automatically set to the frequency that was in use when the loco or consist was stored.

T5000 Menu Pages and Setup Options

All of the throttle setup and operation options are found within the two MENU pages. Pushing the MENU key once brings up the first page. Pushing the MENU key a second time brings up the second page. If MENU is pressed a third time, you return to the home page. At any time you may push ESC to cancel and return to the home page.

Each menu page has 4 items that may be selected using the appropriate key. For example, to turn off the throttle, push MENU followed by the 1 key. To change the throttle transmit power level, push MENU twice, followed by the 6 key.

Except for item 7, selecting a specific MENU item takes you to the page where changes or options may be selected.

Below are the explanations for each of the menu selections along with their page number.

Push MENU Key Once

```
0. OPS PROGRAM
1. POWER OFF
2. SS SELECT
3. FREQ SELECT
```

Push MENU Key Twice

```
4. SVC PROGRAM
5. AUTO OFF TIMER
6. TRANSMIT POWER
7. FACTORY RESET
```

Menu Setup Option Table Of Contents

This table of contents lists each setup option, a brief explanation and a page number for additional details on its use.

Selecting Transmit Frequency

There are a total of 17 frequencies available for use with AIRWIRE decoders. The G3 decoder supports all 17 frequencies numbered 0 to 16.

Note: Check your decoder manual for the frequencies that may be used. For example, the Drop-In decoders support only 16 frequencies, number from 0 to 9, and A to F. The table below shows which frequency number is associated with the Drop-In decoder letter frequency.

Step 1: Push the MENU key once, then push the 3 key.

Step 2: Enter the number corresponding to the frequency you wish to use from the table below.

Step 3: Push the # key to enter. The change takes effect immediately.

Push MENU Once

```
0. AUTO OFF
1. POWER OFF
2. SS SELECT
3. FREQ SELECT
```

```
FREQ        --

*ESC        ENT#
```

Frequency Table and Decoder Cross Reference

G3 decoders support all 17 frequencies, numbered 0 to 16. Use the appropriate frequency number in the throttle when matching decoder to throttle frequency.

Drop-In decoders support only 16 frequencies, numbered 0 to 9 and A to F. For the letter frequencies, above 9, use the table below to load the appropriate *number* into the T5000.

G2 decoders and older decoders support only 8 frequencies, numbered 0 to 7. Use the appropriate frequency number when matching decoder to throttle frequency.

Stanton decoders can be controlled when the T5000 is set to frequency 16.

Number	Frequency (MHz)	Number	Frequency (MHz)
0	921.37	9	924.62
1	919.87	10 (A)	923.12
2	915.37	11 (B)	918.12
3	912.37	12 (C)	916.87
4	909.37	13 (D)	913.62
5	907.87	14 (E)	910.87
6	906.37	15 (F)	904.87
7	903.37	16 (na)	916.37
8	926.12		

Changing Throttle Frequency Does Not Change Decoder Frequency

A common misconception is that changing the throttle frequency changes the decoder frequency. This does not happen. To change the decoder frequency you must use OPS Mode programming. See decoder user's guide for details.