

The T5000 Home Page



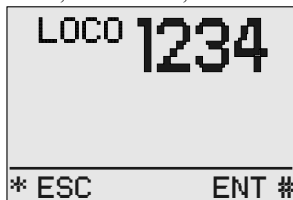
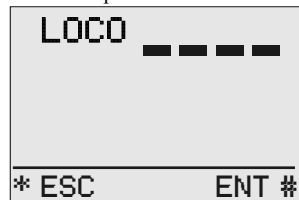
This is the "home" page. This one page shows all of the important items being controlled. The loco's decoder address shown is called the active address. All speed, direction and function commands go to this address. Refer to the list below for a description of each section of the display.

1. This shows the type of equipment being controlled. The options are Locomotive, CONSist, or ACCessorY.
2. This line shows the speed and direction 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. The frequency number currently in use. There are a total of 16 unique frequencies available numbered from 0 to 15. The frequency is stored with the locomotive number.
4. The number of speed steps from off to full speed.
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 had about 1/4th of its charge used.
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.

Entering A Loco Address To Control

1st. push # to start

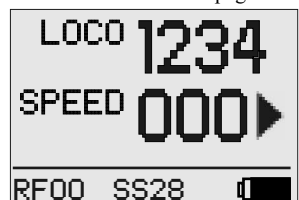
2nd, enter address, then #



Leading zeroes are not required. When the number is correct, push the # key.

At any time during this process push ESC to cancel the entry and put back the previous address.

New address on home page



The home page shows the new address and always sets the speed to zero with the direction set to forward.

Turn up the speed knob to control speed. Push down on the speed knob to change direction.

MENU Pages

Push MENU Once

Push MENU Twice

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

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

Pushing the MENU key once brings up the first page. Push ESC to cancel and return to the home page.

0. Activates the Operation Programming mode.

1. Turns off the throttle.
2. Brings up a subMENU to select the number of speed steps used.
3. Brings up a subMENU to select the radio frequency used.

Pushing MENU key twice, brings up MENU page 2. Push ESC to cancel and return to the home page.

4. Activates the Service Programming mode.
5. To set the number of minutes before throttle is powered off
6. To set T5000 transmitter's output power level
7. Resets the throttle to the original factory settings and clears all locomotive and consist memory locations.

T5000 Transmitter Power Level And Auto Shutoff



POWER LEVEL of Transmitter: The range is 0 to 10 with 0 being the minimum power, very short range but long battery life. A value of 10 is the maximum power level, furthest range and shortest battery life.

The factory default setting is 5 which sets the output power at about the same level as an RF1300 or T9000 throttle. It can be changed at any time and is remembered even if batteries are removed.

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

AUTOSHUT OFF TIMER: The range is 1 minute to 9,999 minutes. The factory default is 15 minutes. Note any time there is a non-zero speed value for an active locomotive or consist the timer is paused. Once the loco's speed is zero, the timer resumes. This prevents inadvertent throttle shut off while a train is in motion.

Decoder's Function Controls

The T5000 throttle controls functions F0 thru F28 although it is the locomotive decoder that sets the total number of available functions.

F0 to F9: The 0 key is F0, the 1 key is F1, the 2 key is assigned to F2, etc. Simply push the desired number key. 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 * key once and then enter the second number. Notice that the display shows F1_ with a blinking underscore. Push the second number to finish.

F20 to F28: Push the * key twice and then enter the second number.

Throttle Factory Settings

To restore the original factory settings for your throttle, go to MENU page 2 and select option 7, FACTORY RESET. The following settings are restored and all memory locations are cleared to dashes.

Address 0003
Direction FWD
Functions All Off
Radio Freq 00
Speed Steps 28
Auto-shut off time 15 min
Power Level 5
Loco Memory Dashes
Consist Memory Dashes

Software Version

The software version number is always shown on the bottom line of the first page when power is turned on or after a factory reset. This first page is called the "splash" page. In this example, it is version 1.0



Troubleshooting

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

- Check/confirm for correct decoder address
- Check/confirm for correct frequency
- Check for proper throttle power level
- Make sure train is powered
- Verify another throttle is not on your frequency

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 AirWire900 equipment. Be sure and follow the instructions to insure prompt service. Be sure to include a copy of your invoice or your invoice number.

FCC ID: X7J-A10040601

CVP Products P.O. Box 835772
Richardson, TX 75083 www.cvpusa.com

Frequencies Available

Change frequency from MENU page 1, option 3. Enter the desired frequency and push ENT. The change takes effect immediately. Leading zeroes are not needed.



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

Note: Frequencies 8 to 15 are for the "Drop-Ins" and G3 decoders only. Note that the T5000 uses numbers instead of letters for the higher frequencies. So use the number that matches the letter selected on the decoder. These frequencies can not be used with older decoders.

T5000 Users Guide

Power On and MENUS

Stop and Accessory Control

Speed Control

Escape/Exit F10-19 F20-28



Loco Memory Store/Recall

Consist Edit Store/Recall

Direction Control push down

Enter or # or Yes

Battery Installation/Using Rechargeables

You need two, high quality, AAA alkaline batteries for the best results and longest battery life. Rechargeable batteries, rated at 1.5 volts each, also may be used but do not last as long. Maximum voltage, per battery, is 1.8 volts. Higher voltages will damage the throttle.



New! Loco Number and Frequency Are Now 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.

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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.

First make the front or lead locomotive active as a single locomotive on the home page. Whatever locomotive address is shown on the home page becomes the lead or first locomotive in a consist. Also set the direction to forward and the speed to 0.

Now push CONS and verify that the lead locomotive address is the one you want. If not, push ESC and change the active locomotive. Otherwise, push # to answer YES to the question.

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

After pushing #, you may now load the second locomotive number and change the direction if necessary by pushing on the speed knob. Unless changed, forward direction is assumed. Once the number and the direction are entered, push #.

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 to the right.

When you reach the 4th locomotive, that is the most that 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.

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 to indicate there are no more entries. This brings up the ACTIVATE CONSIST question where you can either activate or store the consist.

LOCO 1234
SPEED 000▶
RFOO SS28

LEAD 1234
BUILD CONSIST?
*ESC ENT#

LOCO2 5678
DIRECTION ▶
*ESC ENT#

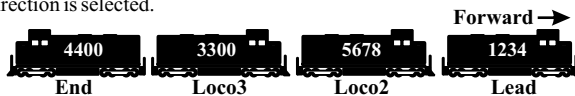
LOCO3 3300
DIRECTION ▶
*ESC ENT#

END 4400
ACTIVATE CONSIST?
*ESC -->CONS

CONS 1234
SPEED 000▶
RFOO SS28

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.



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.



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

LEAD ----
DIRECTION ▶
*ESC () ENT#

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.

Delete One Locomotive in the consist is similar except the locomotive to be deleted is showing. Push CONS to edit. Find the locomotive to delete. Once again, press 0 to delete. Notice the numbers are replaced by dashes when you push 0. If you made a mistake, push * to cancel. Otherwise, push # to delete the selected locomotive from the consist and return to the home page.

LOCO3 ----
DIRECTION ▶
*ESC () ENT#

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.

Store and Recall An Active Consist Speed and Direction

An active consist, running on the layout, can have its speed, direction, frequency and lead locomotive functions stored for later recall. After you have everything set as desired, push the CONS key twice to store it.

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 speed is set to 0 and functions are off.

Decoder Programming - Service Mode and 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. It is used to configure only the decoder address that is presently active and shown 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 or configure all of the parameters including the address. Take care to insure no other locomotive decoders are on and sharing the same frequency because they too will be programmed. 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.

Push MENU, MENU, 4, to start. Enter the CV number, 1 for the address, and push #.

SV-CV ---1
*ESC ENT#

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.

SV-CV 0001
VALUE 0123
*ESC --> #

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

OPS Mode Example

This example shows the changing of CV2 which is the motor start CV. Before selecting OPS mode, make sure the desired locomotive's address is on the home page.

Push MENU, 0 to select OPS mode. Enter the CV number, 2, for this example and push #.

OP-CV ---2
*ESC ENT#

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.

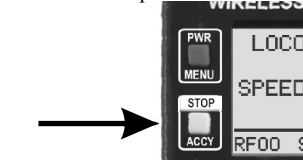
OP-CV 0002
VALUE 0031
*ESC --> #

Push # to change another CV or * to exit.

STOP!

Push and hold the yellow key to immediately set the speed step value to zero.

The locomotive will come to a stop providing the locomotive receives the command. Also, the locomotive decoder's deceleration rate determines how quickly it comes to a stop.



Speed Step Selection

Select the number of speed steps from off to full on from MENU page-1. The default is 28 steps. The speed display shows the step number being transmitted. The locomotive decoder sets the motor speed for a given speed step. Speed 000 is always stop or off.

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

Storing and Recalling Locomotives From Memory

Push LOCO, LOCO to store the active locomotive into LOCO memory.

Push LOCO, [rotate knob to] scroll, # to recall a locomotive's speed and direction. Also recalled will be the status of the functions as well as the frequency.

Push LOCO, scroll, 0 if you wish to delete the displayed loco number from memory.

There are 8 memory slots into which you can store locomotives for later recall. The locomotive number, frequency, speed/direction and function status are all stored. Each memory slot is numbered. Unused slots are shown

LOCO1 1234
MEM
*ESC () ENT#

with dashes. At any time you can recall a stored locomotive from memory.

When power is turned off, all stored speeds are reset to 0.

There are 8 locomotive memory slots. If a 9th locomotive is put into memory, the oldest entry, #1, is automatically deleted to make room for the new locomotive.

Accessories/Stationary Decoder Control

Controlling the AirWire Activator or other accessory decoders is initiated by pushing and quickly releasing the yellow STOP/ACCY key. Release the key quickly since holding it down invokes STOP.

While in the ACCY mode, locomotive speed and direction still work.

When the ACCY page appears, key in the Activator address and push #. The Activator address range is from 1 to 2048. See the Activator manual for more information. Address 0 is not valid.

The on-screen prompt shows the two activation keys. Pushing the 3 key turns on or throws the turnout normal. Pushing the 1 key turns on or throws the turnout reverse. However, your accessories may perform differently depending on how they are connected to the Activator.

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 #.

ACCY ----
*ESC ENT#

ACCY 0001
1-R/OFF N/ON-3
*ESC --> #