

## Extra Plugs, Sockets And Harnesses

Extra plugs, sockets and harnesses can be purchased direct from CVP Products. The harnesses are sold individually. They are priced at \$5 each. Be sure to specify which harness is wanted: standard or S4.

The 2mm plug and socket are the same as in our 5PAKM and 5PAKF. Each package contains 5 plugs (M) or 5 sockets (F). They sell for \$7 each.

## Sound Decoder Programming

Before mounting the sound decoder, you may use an existing track powered DCC system to setup and program the sound decoder. Also, your T5000 throttle is a complete NMRA-DCC decoder programmer. Programming is no different than for our Drop-In decoder. Make sure you obtain the sound decoder's user manual. There are many programming options for sound. But, if you need help with the sound decoder, please contact the decoder manufacturer for help. CVP is not able to provide assistance for the sound decoder setup and programming.

### XDRIVE Warranty Information

Since installation errors are beyond our control, the warranty is very limited and short. This warranty covers substantial defects in materials and workmanship in the XDRIVE board only.

#### What This Warranty Does Not Cover

This warranty does not cover any problems which result from improper installation, modifications, battery polarity reversal, improper operation, leaking batteries, excessive battery voltages, excessive decoder current draw, incorrect connections to decoders, abuse, accidents, or acts of God such as excessive heat, floods, damage caused by exposure to moisture and rain, lightning, earthquakes, volcanic events, tidal waves or hurricanes.

#### Warranty Duration

The coverage of this warranty lasts for 60 days. After this period, standard repair rates apply. Depending on the problem, CVP reserves the right to repair or replace.

#### Help, Repairs and Returns

If you purchased your XDRIVE from one of our AirWire900 dealers, please call them first. They are your best and quickest source for answers to questions about XDRIVE. They are also experts in installation and offer such services should it be required. If you purchased your XDRIVE *direct* from CVP Products, call us first.

If you are asked to return an item to CVP for service, you must follow the instructions on the website listed under the "Repair Services" link. There you will find the street address plus other helpful tips about how and where to send items to CVP Products.

**Do not send items to us for repair without first obtaining authorization and an RMA.**

### XDRIVE Electrical Ratings

Maximum Input Battery Voltage .....	24 Volts DC
Minimum Input Battery Voltage .....	11 Volts DC
Minimum Surge Current without Tripping .....	55A
Maximum Continuous Current (thermally limited) .....	3A at 100°C*
Reverse Polarity .....	Not Protected

**Do not allow XDRIVE output wires to short circuit. This will damage the Drop-In board.**

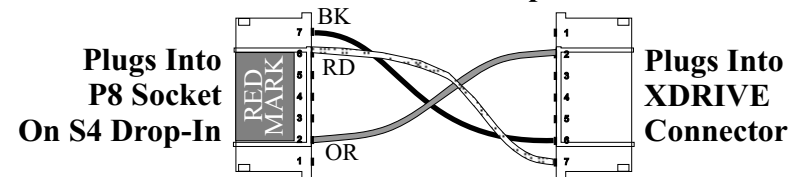
# The AirWire900® XDRIVE™ User Guide For USA-Trains S4 Drop-In

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## Warning! Verify You Received The Correct Harness

The USA-Trains Alco S4 Drop-In requires a different harness than the other Drop-Ins. The special S4 Harness has one color coded connector whereas the standard Drop-In harness is has no color coding. Use the picture below to verify you have the correct harness. The red marked connector will plug into the Drop-In's P8 socket ONLY. The unmarked plug goes to the XDRIVE connector.

### USA-Trains Alco S4 Drop-In Harness



USA-Trains Alco S4 Drop-In Only

Orange	Low Level DCC Signal
Black	Battery Minus
Red	Battery Plus

## WARNING

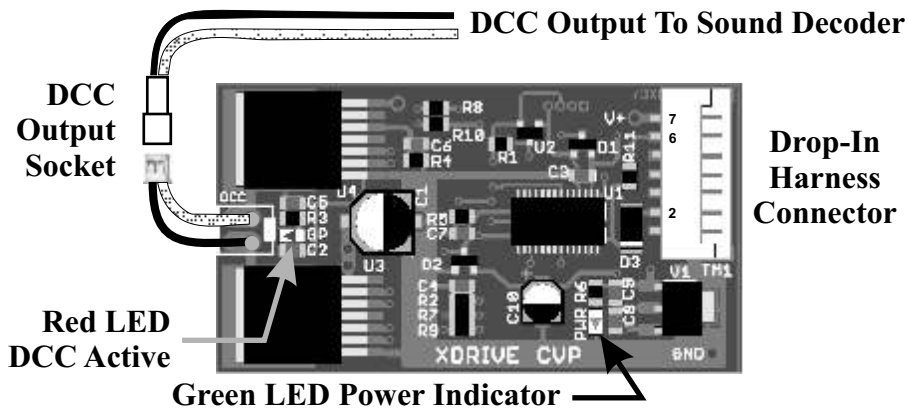
**Never allow the XDRIVE output wires to touch or short circuit together. Doing so will cause damage to your Drop-In board.**



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XDRIVE Board  
S4 Drop-In Harness  
Output Socket Pigtail  
S4 XDRIVE User Guide

## XDRIVE Familiarization



### XDRIVE Board Familiarization

**Harness Input Connector:** The included harness plugs into this connector. Use the unmarked connector. The red marked connector plugs into the P8 connector on the Drop-In. Power and DCC from the Drop-In pass through this harness into the XDRIVE and onto the attached sound decoder.

**The S4 harness cannot be used on other Drop-In decoders.** Do not use the standard harness on an S4 - it will damage the S4 and the XDRIVE.

**DCC Output Socket** plugs into the pre-installed XDRIVE DCC output plug. The socket wires connect to the track input terminals of the DCC sound decoder. The next page shows a typical hookup.

**Green PWR LED Indicator:** Glows bright green when power is applied. Be sure to turn on the Drop-Ins SND switch. This is especially important when programming the attached sound decoder.

**Red GP LED Indicator:** Glows steady bright red when the Drop-In is receiving throttle data on its matching frequency. As long as the Drop-In frequency matches the AirWire throttle, the GP light will be on. It does not matter if the throttle address does not match the decoder address.

**There is nothing to program or set on the XDRIVE.** It simply boosts and passes along the DCC signal to the attached DCC decoder.

## Programming The Attached Sound Decoder

Your first task will be to give the Drop-In and the sound decoder the same address. Use your T5000 throttle to program the address of both the Drop-In and the attached sound decoder at the same time. This is described in great detail in your Drop-In Installation and User Guides. A short version is repeated here for reference.

Switch on both the Drop-In power switch and the Sound Decoder power switch. These are the two slide switches underneath the chassis. Now turn on your throttle. Set it for the same frequency as the Drop-In. Push the following keys in the order presented. Watch the display to confirm you have entered what you intend to enter.

- MENU, MENU, [gets you to menu page 2]
- 4, ENT, [selects SVC PROGRAM (service programming)]
- 1, ENT [ CV1 is always the loco number]
- n,n,n,n [desired loco number], ENT, ESC [takes you back to the home screen]

The Drop-In will chirp indicating receipt of the programming command when you press ENT. Now both the Drop-In and the sound decoder have the same address. Test run them to confirm.

Refer to the Sound Decoder user guide for other options you may wish to setup.

## Example Hookup Diagram

### S4 Drop-In Hookup To Soundtraxx Decoder

The XDRIVE receives power and DCC signal from the Drop-In decoder by way of the harness.

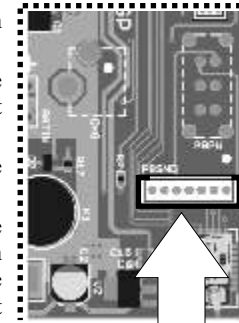
Plug the red connector into the P8 Sound socket on the S4 Drop-In. The plug fits only one way. Don't force it into the socket.

Plug the other end of the harness into the socket on the XDRIVE.

If the harness wire are too long, coil up the excess wire and tuck it out of the way. Keep the wire away from the radio module and radio antenna. Make sure the wires are clear of any mounting bosses. Do not shorten the harness wires.

Mount the XDRIVE in an area away from the radio module and antenna. Make sure the bottom of the module does not contact any metal object.

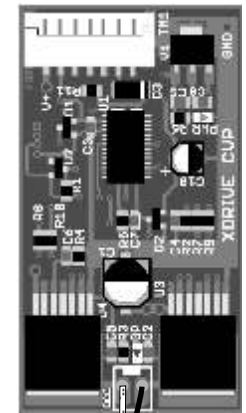
Decide where to mount the sound module. Trim the XDRIVE output socket's wire to the desired length. Strip and tin the wire ends. Insert into the track inputs of the decoder. For the ECO-4400 they are labeled RR (right rail) and LR (left rail).



### S4 Drop-In

Red connector plugs into S4 socket.

Plugs are polarized. They fit only one way. Do not force them into board sockets. Plug should fit snug



### Caution

The XDRIVE is for connecting to a DCC sound effects decoder. Do not use the DCC decoder's motor drive output. There is insufficient power from the Drop-In to do so and can damage the Drop-In board.

However, you may use the DCC sound decoder's light drivers. See the DCC sound decoder's user manual for more information and how to setup and connect LEDs to the drivers.



Excess wire may be trimmed once the location is identified.

ECO-4400 (speaker wiring not shown)