

## ARISTO - CRAFT TRAINS

### ART29338

## RS3 DIGITAL DIESEL SOUND SYSTEM OWNER'S MANUAL & INSTALLATION INSTRUCTIONS

The ART29338 DigitalSound System from is a state of the art microprocessor controlled system. Digitally sampled sounds from a real RS3 locomotive are stored in the EPROM along with the programs which control the systems operation.

This unit features 4 voices, automatic mode and manual mode – for use with external controllers i.e. radio control, etc.. allowing you to fully control bell and whistle sounds wherever the train is, improved battery performance and life between charges, higher battery voltage for better low speed sound performance and dual channel sound enabling the operator to balance the different voices and utilize two speakers with voice (channel) separation.

The system includes the following items:

1. Printed circuit board with the 3 reed switches installed in fuel tank.
2. Speaker plug-in and wires for second speaker.
3. 3 track magnets

## SPEAKER AND VOLUME CONTROLS

Jumper JP4 when installed mixes all sounds to both amplifiers. When JP4 is not installed the bell and horn sounds come out of speaker #1 only and the motor and cab talk from speaker #2 only. Volume and balance are accomplished by the volume knobs; cont.#1 adjusts the bell and whistle volume and cont. #2 adjusts the motor and cab talk volumes. Normally, when adding speaker #2, the jumper would be removed unless you want all sounds out of both speakers.

## MANUAL/AUTO MODES

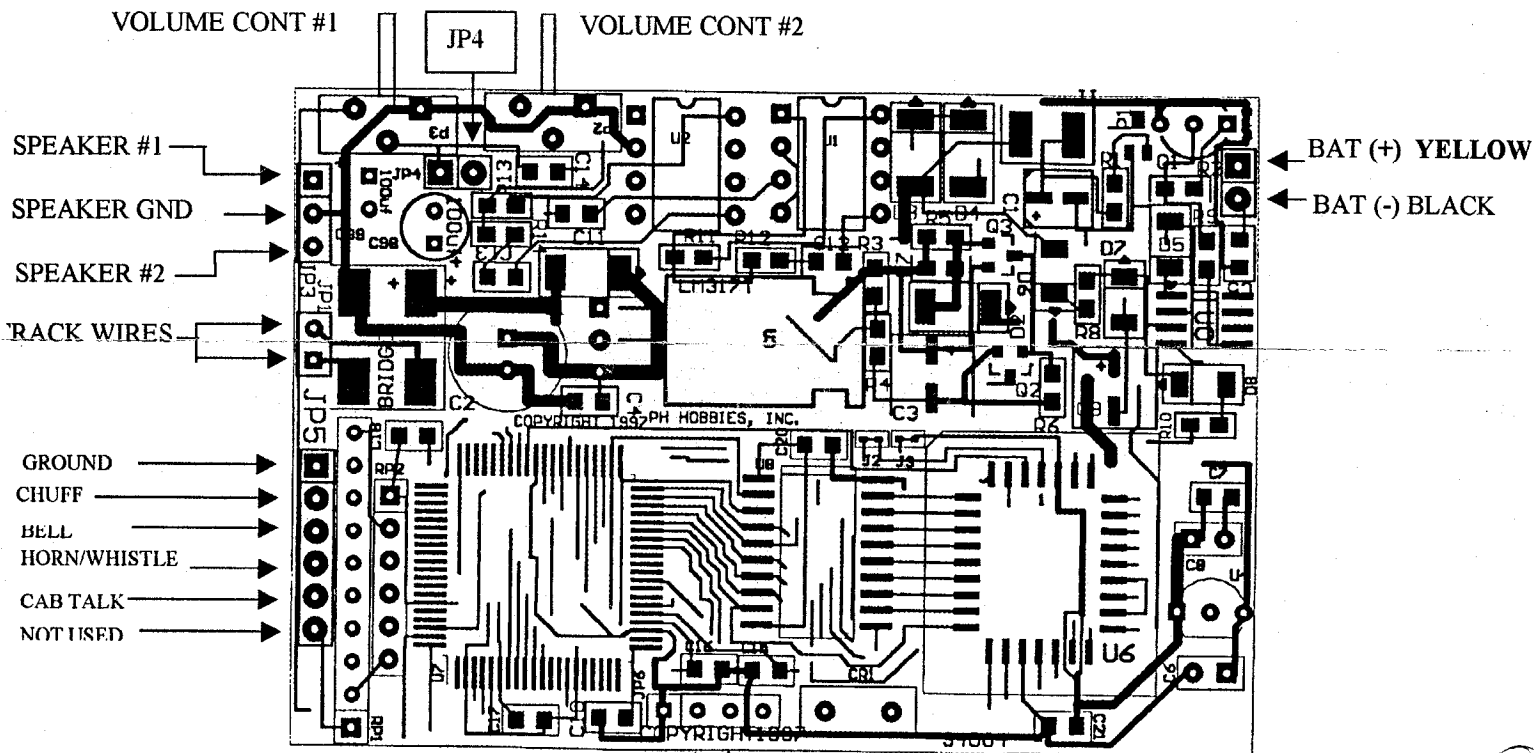
Jumper JP6 controls the mode of the sound playback.

The horn/bell pin when in manual mode gives the operator full control of the sounds when used with a remote or radio control. In the auto mode preprogrammed sequences are played.

The starter/cab talk is actuated in the manual mode only. The starter will come on when voltage is first applied and the cab talk will actuate at low voltages.

### JP4 CONNECTIONS

Install jumper when using 1 speaker or if all sounds from both speakers.



### JP6 CONNECTIONS

GROUND      + 5 VOLTS

HORN/WHISTLE & BELL MANUAL/AUTO SW.

STARTER & CAB TALK MANUAL AUTO SW.

**WHEN CONNECTED TO YELLOW - MANUAL MODE. WHEN CONNECTED TO BLACK - AUTO MODE**

## SPEAKER AND VOLUME CONTROLS

Jumper JP4 when installed mixes all sounds to both amplifiers. When JP4 is not installed the bell and whistle sounds come out of speaker #1 only and the chuff from speaker #2 only. Volume and balance are accomplished by the volume knobs; cont.#1 adjusts the bell and whistle volume and cont. #2 adjusts the chuff and idle volumes. Normally, when adding speaker #2, the jumper would be removed unless you want all sounds out of both speakers.

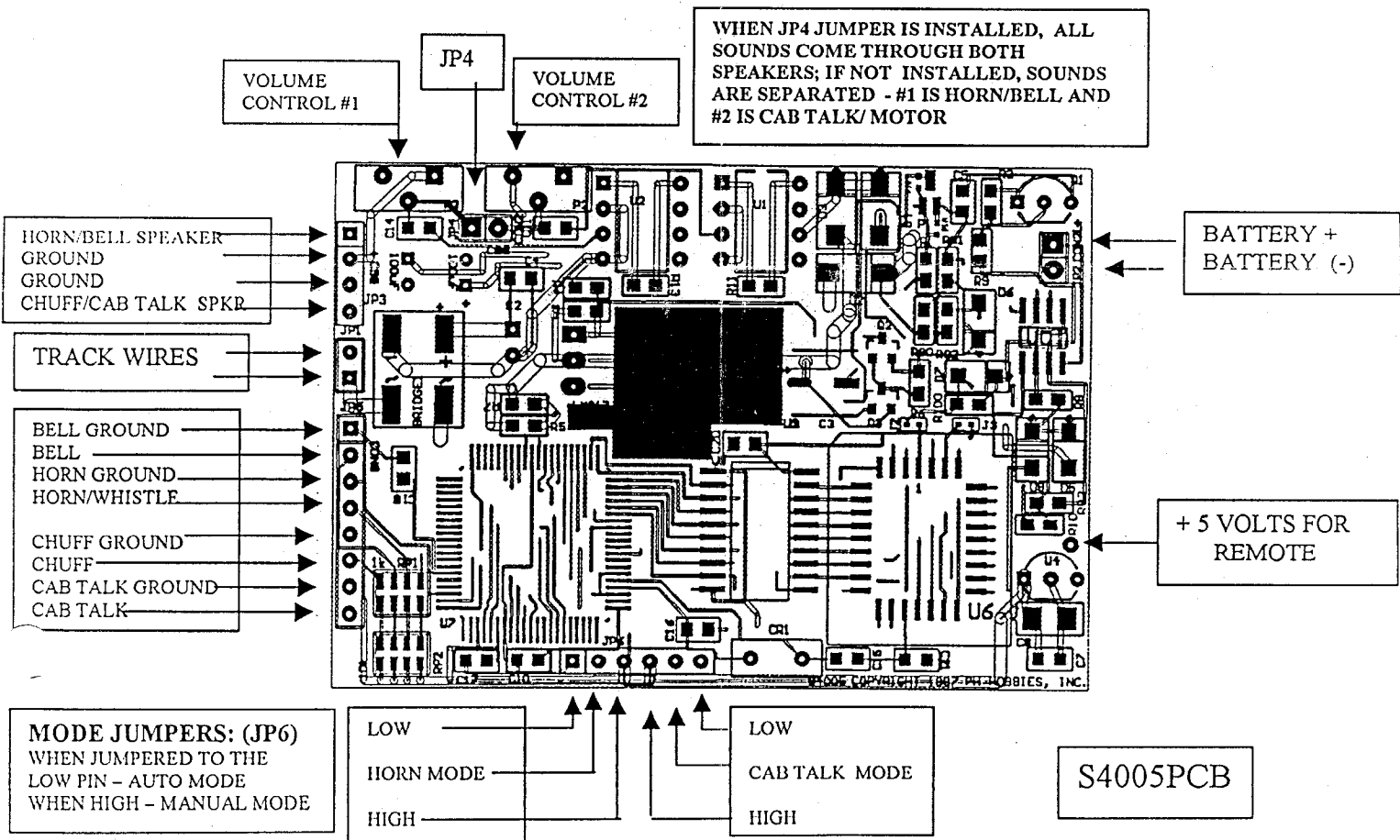
## MANUAL/AUTO MODES

Jumper JP6 controls the mode of the sound playback.

The horn/bell pin when in manual mode gives the operator full control of the sounds when used with a remote or radio control. In the auto mode preprogrammed sequences are played.

The starter/cab talk is primarily used on diesels.

## THIS CIRCUIT BOARD DIAGRAM APPLIES TO ALL SOUND SYSTEMS PRODUCED AFTER 11-01-1997



## INSTALLATION

1. Remove your old fuel tank from your engine by removing the four (4) phillips head screws.
2. Remove the front long hood by removing 8 phillips head screws.
3. Plug in the track wire connector in the engine, mount the inductor to the floor and route the other end through the hole in the floor into the fuel tank area.
4. Route the speaker wires up into the upper body and plug in to the existing speaker wire plug.
5. Plug in the track power wire to the circuit board located on the locomotive floor.
6. Reinstall the long hood with the 8 screws removed earlier
7. Install the new fuel tank in place of the old one with the 4 screws removed earlier, route and attach the reed switches for the horn and bell as shown and mount the cab talk reed switch under the floor along the edge of the engine.
8. The installation is complete. Put the engine on the track, turn off the motor switch located under the cover on top of the hood and apply power to the track.. The sound will come on at 3 volts unless the battery requires charging.

## BATTERY CHARGING

At this point the installation is complete. The next step is to charge the batteries. **THE BATTERY INCLUDED IS A 6 VOLT NI-CAD RECHARGEABLE BATTERY. DO NOT USE BATTERIES OTHER THAN RECHARGEABLES OR SERIOUS DAMAGE COULD RESULT.**

**The batteries must be charged initially for 10 to 12 hours at 12 to 14 volts.** Place the car on the track and turn the speed up to 12 volts. The sound will come on. Turn the volumes down so the sound is just audible and allow to run for 10 to 12 hours. The charging circuit built into the board will do the rest. Depending on the speed at which you run your trains (i.e. the voltage) future battery charging may not be required.

## OPERATION

At 2.5 to 3 volts of track power, the sound comes on in the idle mode. The motor speed will increase automatically as the voltage to the track is increased. The bell and horn functions in the AUTO mode are actuated by the reed switches passing over the magnets attached to the track ties. The cab talk may be actuated by a reed switch mounted on a sign post alongside the track.

# ARISTOCRAFT TRAINS

## LIMITED WARRANTY

Your new ARISTOCRAFT TRAINS product is warranted for 180 days from DATE OF PURCHASE against defects in workmanship and/or materials. Proof of purchase may be required by ARISTOCRAFT TRAINS.

The warranty is void and does not apply to any product and/or parts and components which may have been improperly installed by purchaser/owner, abused or damaged in any way through improper operation, modified, or repaired by unauthorized service centers and/or non-factory authorized technicians.

## SERVICING

Should your ARISTOCRAFT TRAINS product require warranty service, be sure to take the following steps to insure proper servicing:

Properly package the product and ship FULLY INSURED and PREPAID. ARISTOCRAFT TRAINS will not be responsible for any damage or loss incurred during shipping.

Include a brief but thorough explanation of the problem(s) and the servicing that may be required.

Be sure to include your NAME, ADDRESS (no post office box, please), CITY, STATE (OR province), COUNTRY (if outside USA), and postal ZIP CODE, along with daytime phone number including Area Code, so that you may be contacted if it becomes necessary. All identification should be both INSIDE package and on OUTSIDE shipping carton.

AFTER the initial 180 day warranty period include payment of \$20.00 US for shipping/handling with your check (USA Bank Account only)/Money Order payable in US Dollars to: Polk's Hobbies. PLEASE DO NOT SEND CASH. You will be contacted with the amount of the repair costs before repairs are started.

**C.O.D. Charges are additional cost.**

Ship your item(s) to:

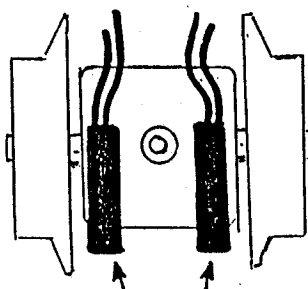
**ARISTOCRAFT TRAINS/Polks Modelcraft Hobbies, Inc.  
346 Bergen Ave., Jersey City, N.J., 07304 USA**

Immediate written confirmation of receipt of returned item(s) will be sent along with estimated repair time by ARISTOCRAFT TRAINS Service Department.

## ILLUSTRATIONS

### MOTOR BLOCK

(end view)



**REED SWITCHES**