

the connecting **punch**

AEROPORT

RP9314 / RP9316 / RP9317

INSTALLATION & OPERATION MANUAL



Dear Customer,

Congratulations on your purchase of the world's finest brand of car audio speakers. At Rockford Fosgate we are fanatics about musical reproduction at its best, and we are pleased you chose our product. Through years of engineering expertise, hand craftsmanship and critical testing procedures, we have created a wide range of products that reproduce music with all the clarity and richness you deserve.

For maximum performance we recommend you have your new Rockford Fosgate product installed by an Authorized Rockford Fosgate Dealer, as we provide specialized training through Rockford Technical Training Institute (RTTI). Please read your warranty and retain your receipt and original carton for possible future use.

Great product and competent installations are only a piece of the puzzle when it comes to your system. Make sure that your installer is using 100% authentic installation accessories from Connecting Punch in your installation. Connecting Punch has everything from RCA cables and speaker wire to Power line and battery connectors. Insist on it! After all, your new system deserves nothing but the best.

To add the finishing touch to your new Rockford Fosgate image order your Rockford wearables, which include everything from T-shirts and jackets to hats and sunglasses.

To get a free brochure on Rockford Fosgate products and Rockford wearables, in the U.S. call 602-967-3565 or FAX 602-967-8132. For all other countries, call +001-602-967-3565 or FAX +001-602-967-8132.

PRACTICE SAFE SOUND™

CONTINUOUS EXPOSURE TO SOUND PRESSURE LEVELS OVER 100dB MAY CAUSE PERMANENT HEARING LOSS. HIGH POWERED AUTOSOUND SYSTEMS MAY PRODUCE SOUND PRESSURE LEVELS WELL OVER 130dB. USE COMMON SENSE AND PRACTICE SAFE SOUND.

If, after reading your manual, you still have questions regarding this product, we recommend that you see your Rockford Fosgate dealer. If you need further assistance, you can call us direct at 1-800-795-2385. Be sure to have your serial number, model number and date of purchase available when you call.

The serial number can be found on the outside of the box. Please record it in the space provided below as your permanent record. This will serve as verification of your factory warranty and may become useful in recovering your speakers if they are ever stolen.

Serial Number: _____

Model Number: _____

TABLE OF CONTENTS

Aeroport Contents	1
Introduction	1
Operating Features	1
Calculating Port Length	2
Installation Considerations	3
Mounting The Aeroport	3
Warranty Information	4

AEROPORT CONTENTS

RP9314

One tube 16" long
Two Aeroport end flanges

RP9316

One tube 16" long
Two Aeroport end flanges

RP9317

One tube 16" long
Two Aeroport end flanges
(no tube, use standard 6" PVC pipe)

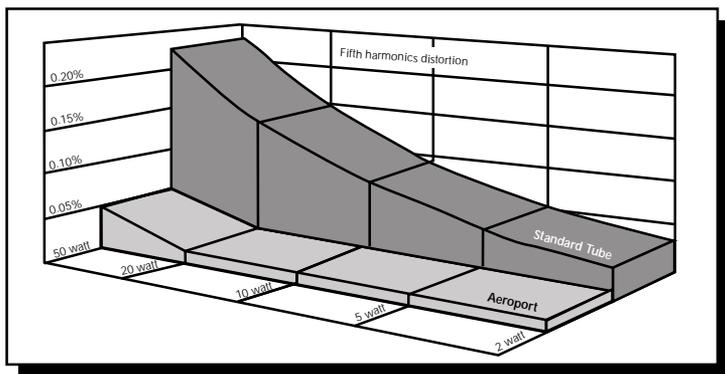
INTRODUCTION

This manual provides information on the features, installation and operation of the Aeroport. We recommend you keep this manual for future reference.

We strongly recommend you have your Authorized Rockford Fosgate Dealer install your new Aeroport; however, if you choose to do the installation yourself, please be sure to read the entire manual before beginning. When installing this product, please use the proper safety precautions while using power tools or flammable materials.

OPERATING / FEATURES

A major design challenge when building a vented speaker enclosure is the turbulence generated by the air moving through the port. The air movement causes harmonic distortion as well as a whistling noise from the port. The Aeroport was designed to reduce this effect. Inspired by the bell on a brass instrument, the flanges on the ends of the Aeroport reduce the air friction and distortion inherent in the operation of a conventional tube.



The Harmonics graph illustrates the advantage of using the Aeroport over a conventional tube. The human ear can sense .1% distortion. A standard tube can reach that amount with only 10 watts of input where as the Aeroport reaches only .05% distortion with 50 Watts of input. The end result? You can apply more input power with less distortion or use a smaller diameter Aeroport in place of a standard tube.

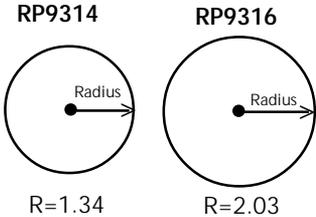
If using a computer aided speaker design program such as Term-Pro, port velocities of up to 15% can be alleviated.

CALCULATING PORT LENGTH

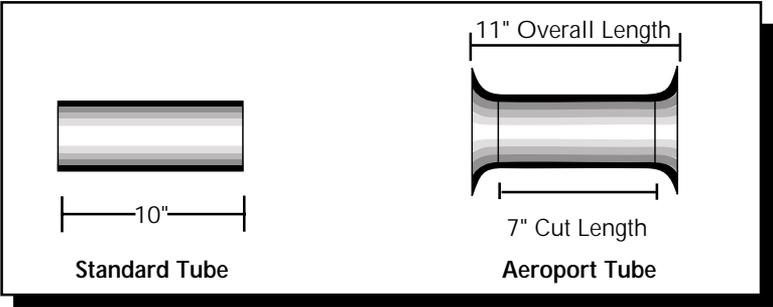
After the enclosure has been designed, the following formula may be useful when calculating the port length:

$$L_v = \frac{8466.4R^2}{(V_b)F_b^2} - 1.463R$$

- Lv = port length in inches
- Vb = volume of box in cubic feet
- Fb = tuning frequency
- R = radius of port

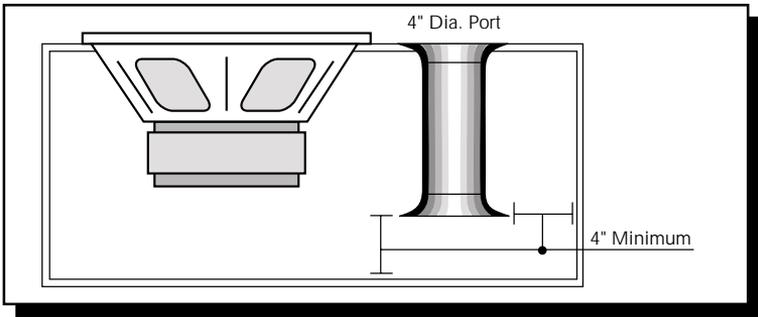


When cutting the Aeroport center tube, the length should be cut 3" shorter than calculated. When the end flanges are affixed, each end extends the tube one and a half inches. If the determined port length is 10" then the fully assembled Aeroport (center tube with flanges attached) should measure 11" (the extra 1/2" on each end contributes to harmonics and not the length of the tube).



INSTALLATION CONSIDERATIONS

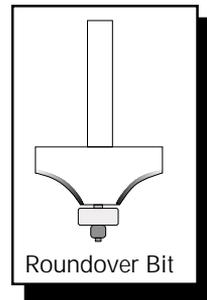
Before cutting any holes in the enclosure first determine the placement of the Aeroport. Best results will be derived by placing the woofer and port on the same side of the enclosure. To maintain proper tuning and noise free operation, the Aeroport should be positioned to allow the flange at least one port diameter clearance from the back and side walls. For instance, if you were using a 4" diameter port, keep it 4" from the bottom of the enclosure and 4" from the enclosure walls.



MOUNTING THE AEROPORT

When gluing the end flanges to the main tube, use a good, quick drying epoxy cement. Carefully apply a 1/2" bead on the end of the port then twist the end piece on until seated properly.

To flush mount the 3" Aeroport, cut out a 4-5/16" diameter hole and a 5-9/16" diameter hole for the 4" Aeroport and cut a 9" diameter hole of the 6" Aeroport. After the holes have been cut, use a 1/2" roundover router bit to accommodate the curve needed for the end flange.



When mounting the Aeroport to the enclosure, apply the quick drying epoxy cement to the mounting surface and use silicone caulk or fiberglass compound on the inside of the enclosure to secure the port to the wood.

WARRANTY INFORMATION

The Aeroport is nearly indestructible and will provide years of service if installed and used in accordance with the instructions in this manual. If this product should prove to be defective due to a manufacturing defect within a period of ninety (90) days from the date of purchase, contact your Authorized Rockford Fosgate Dealer or Rockford Corporation Customer Service Department at 1-800-669-9899 for replacement instructions.

Rockford Fosgate
Rockford Corporation
546 South Rockford Drive
Tempe, Arizona 85281 U.S.A.
In U.S.A., (602) 967-3565
In Europe, Fax (49) 4207-801250
In Japan, Fax (81) 559-79-1265