



*4 Channel Power Amplifier*

*MRV-F900*

# ***Alpine F#1 Status***™

**//////ALPINE**®





# MRV-F900

## 4 Channel Power Amplifier

- **OWNER'S MANUAL**  
Please read before using this equipment.
- **MODE D'EMPLOI**  
Veuillez lire avant d'utiliser cet appareil.
- **MANUAL DE OPERACIÓN**  
Léalo antes de utilizar este equipo.

ENGLISH

FRANÇAIS

ESPAÑOL



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# Introduction

## **Meeting a new challenge to realize the best sound possible for the mobile environment AlpineF#1Status**

For a quarter of a century, Alpine's goal has been the best sound in the mobile environment despite its harsh physical and electrical conditions. To overcome these severe listening conditions, Alpine has developed its own unique on-board acoustic technology. This is totally different from that of home audio.

The Mobile Multimedia Era is flourishing, and recording media and reproduction technology have evolved in a remarkable fashion. For an exciting and wide range of emotional experience, sound is more important than ever, and is becoming the central factor.

In the fashion of the master artisans of musical instruments, Alpine has concentrated its incomparable craftsmanship to establish its standing as a Mobile MultiMedia specialist. Alpine's technical foundation is based on its unique technology and expertise accumulated through years of experience. Alpine constantly strives to deliver the best possible sound in this new era with an approach called "micro-dynamics." This approach consists of micro- and macroscopic- technological analysis and design. This gives Alpine the ability to deliver increased precision in reproduction speed and time measurement, to maximize the musical sensory experience.

The best sound in the mobile environment promises the most advanced multimedia experience to serious listeners in their vehicles.

Alpine F#1Status.

The passionate challenge begins here.

## 4 Channel Amplifier

The MRV-F900 is designed to convey all the passion and impact of exceptional performances.

The high fidelity circuitry of this 100W x 4-channel power amplifier, consists of high grade audio components. This combination produces beautiful harmonics, aiming at the ultimate in craftsmanship and following the ideas of microdynamics.

■ **High performance MOS-FETs used in power supply unit and final stage**

Unlike regular transistors, MOS-FETs can operate at extremely high speeds. They feature low loss of broad range response as well as excellent signal response.

■ **Exclusive audio high speed, high current SBD (Schottky barrier diode) used in power supply circuit**

The specially designed toroidal transformer aiming at low noise and a sense of power has been given the maximum possible capacity. Even the electrolyte of the electrolytic capacitor is specially ordered, a measure of the thorough considerations taken with the MRV-F900. The polarities of the parts particularly important for achieving high sound quality, such as the transformer, coils and film capacitors, are carefully controlled to achieve maximum time precision.

■ **Copper foil patterns are used for the circuit boards essential for achieving high quality sound.**

Their thickness is increased to boost speed at high currents. The circuit boards are made of glass epoxy. Parts have been carefully selected for their low noise levels and stable performance to achieve unprecedented high sound quality.

■ **The circuitry is designed through a process of repeated simulations, and high sound quality S.T.A.R circuits are used extensively.**

Far more attention than with previous tunings prioritizing static characteristics has been paid to group delay. The constants of both multiple circuits and individual components have been researched scrupulously, in a tuning process many times more extensive than in the past. As a result, the harmonic spectrum and high energy characteristics of exceptional performances is output beautifully in every detail of the sound to achieve unprecedented dynamism.

# WARNING



## WARNING

This symbol means important instructions.

Failure to heed them can result in serious injury or death.

### **DO NOT OPERATE ANY FUNCTION THAT TAKES YOUR ATTENTION AWAY FROM SAFELY DRIVING YOUR VEHICLE.**

Any function that requires your prolonged attention should only be performed after coming to a complete stop. Always stop the vehicle in a safe location before performing these functions. Failure to do so may result in an accident.

### **KEEP THE VOLUME AT A LEVEL WHERE YOU CAN STILL HEAR OUTSIDE NOISE WHILE DRIVING.**

Failure to do so may result in an accident.

### **DO NOT DISASSEMBLE OR ALTER.**

Doing so may result in an accident, fire or electric shock.

### **USE THIS PRODUCT FOR MOBILE 12V APPLICATIONS.**

Use for other than its designed application may result in fire, electric shock or other injury.

### **USE THE CORRECT AMPERE RATING WHEN REPLACING FUSES.**

Failure to do so may result in fire or electric shock.

### **DO NOT BLOCK VENTS OR RADIATOR PANELS.**

Doing so may cause heat to build up inside and may result in fire.

### **MAKE THE CORRECT CONNECTIONS.**

Failure to make the proper connections may result in fire or product damage.

### **USE ONLY IN CARS WITH A 12 VOLT NEGATIVE GROUND.**

(Check with your dealer if you are not sure.) Failure to do so may result in fire, etc.

### **BEFORE WIRING, DISCONNECT THE CABLE FROM THE NEGATIVE BATTERY TERMINAL.**

Failure to do so may result in electric shock or injury due to electrical shorts.

### **DO NOT ALLOW CABLES TO BECOME ENTANGLED IN SURROUNDING OBJECTS.**

Arrange wiring and cables in compliance with the manual to prevent obstructions when driving. Cables or wiring that obstruct or hang up on places such as the steering wheel, gear lever, brake pedals, etc. can be extremely hazardous.

### **DO NOT SPLICE INTO ELECTRICAL CABLES.**

Never cut away cable insulation to supply power to other equipment. Doing so will exceed the current carrying capacity of the wire and result in fire or electric shock.

### **DO NOT DAMAGE PIPE OR WIRING WHEN DRILLING HOLES.**

When drilling holes in the chassis for installation, take precautions so as not to contact, damage or obstruct pipes, fuel lines, tanks or electrical wiring. Failure to take such precautions may result in fire.

### **DO NOT USE BOLTS OR NUTS IN THE BRAKE OR STEERING SYSTEMS TO MAKE GROUND CONNECTIONS.**

Bolts or nuts used for the brake or steering systems (or any other safety-related system), or tanks should NEVER be used for installations or ground connections. Using such parts could disable control of the vehicle and cause fire etc.

### **KEEP SMALL OBJECTS SUCH AS BOLTS OR SCREWS OUT OF THE REACH OF CHILDREN.**

Swallowing them may result in serious injury. If swallowed, consult a physician immediately.



## CAUTION

This symbol means important instructions.

Failure to heed them can result in injury or material property damage.

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### HALT USE IMMEDIATELY IF A PROBLEM APPEARS.

Failure to do so may cause personal injury or damage to the product. Return it to your authorized Alpine dealer or the nearest Alpine Service Center for repairing.

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### HAVE THE WIRING AND INSTALLATION DONE BY EXPERTS.

The wiring and installation of this unit requires special technical skill and experience. To ensure safety, always contact the dealer where you purchased this product to have the work done.

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### USE SPECIFIED ACCESSORY PARTS AND INSTALL THEM SECURELY.

Be sure to use only the specified accessory parts. Use of other than designated parts may damage this unit internally or may not securely install the unit in place. This may cause parts to become loose resulting in hazards or product failure.

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### ARRANGE THE WIRING SO IT IS NOT CRIMPED OR PINCHED BY A SHARP METAL EDGE.

Route the cables and wiring away from moving parts (like the seat rails) or sharp or pointed edges. This will prevent crimping and damage to the wiring. If wiring passes through a hole in metal, use a rubber grommet to prevent the wire's insulation from being cut by the metal edge of the hole.

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### DO NOT INSTALL IN LOCATIONS WITH HIGH MOISTURE OR DUST.

Avoid installing the unit in locations with high incidence of moisture or dust. Moisture or dust that penetrates into this unit may result in product failure.



## PRECAUTIONS

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### Temperature

Be sure the temperature inside the vehicle is between +60°C (+140°F) and -10°C (+14°F) before turning your unit on.

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### Installation Location

Make sure the MRV-F900 will not be installed in a location subjected to:

- Direct sun and heat
- High humidity and water
- Excessive dust
- Excessive vibrations

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### Maintenance

If you have problems, do not attempt to repair the unit yourself. Return it to your Alpine dealer or the nearest Alpine Service Station for servicing.

# Installation

Due to the high power output of the MRV-F900, considerable heat is produced when the amplifier is in operation. For this reason, the amplifier should be mounted in a location which will allow for free circulation of air, such as inside the trunk. For alternate installation locations, please contact your authorized Alpine dealer.

1. Using the amplifier as a template, mark the four screw locations.
2. Make sure there are no objects behind the surface that may become damaged during drilling.
3. Drill the screw holes.
4. Position the MRV-F900 over the screw holes, and secure with four self-tapping screws.

## NOTE:

To securely connect the ground lead, use an already installed screw on the metal part of the vehicle (marked ★). Be sure this is a good ground by checking continuity to the battery (-) terminal. As much as possible connect all equipment to the same ground point. These procedures will help eliminate noise.

- ① Self-Tapping Screws (M4 x 20)
- ② Ground Lead
- ③ Chassis
- ④ Holes

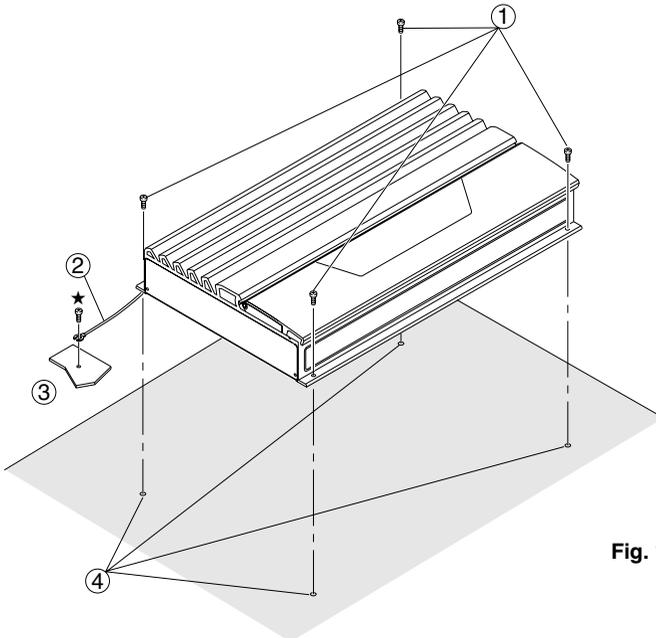


Fig. 1

## Mounting the End Covers

- The product's appearance can be improved by mounting the end covers on the main unit after installation.
- Mount the end covers after installing the main unit.

### 1 Mounting the brackets

- 1) Use the included machine screws ⑥ to mount the three included brackets ⑤ onto the side opposite the terminal surface.

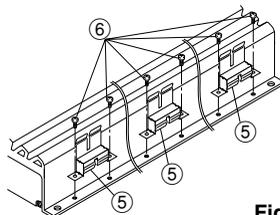


Fig. 2

#### NOTE: APPLYING THE DOUBLE FACE TAPE

Perform the procedure below when you want to securely fasten the end cover or when you do not plan on removing the cover once it is mounted.

- 1) Peel off the paper from one side of the included double face tape ⑦.
- 2) Apply one piece of double face tape ⑦ to the upper surface of the three brackets ⑤.
- 3) Peel off the paper from the other side of the double face tape ⑦.

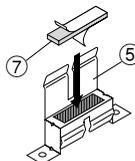


Fig. 3

### 2 Applying the cushion

- 1) Peel off the paper from the included cushion ⑧.
- 2) Apply the cushion ⑧ to the rear side of the end cover ⑨.

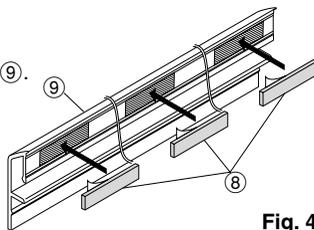


Fig. 4

### 3 Mounting the end covers

- 1) Mount the end covers ⑨ to the brackets ⑤.  
Set the bracket ⑤ vertically from the top side.

#### NOTE:

To remove the bracket ⑤, push up vertically from the bottom upwards, in the opposite direction of when the bracket was installed.

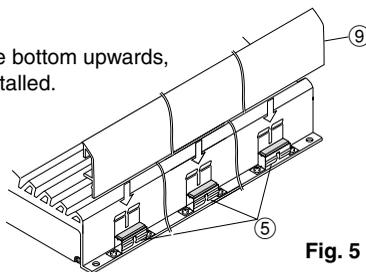


Fig. 5

# Connections

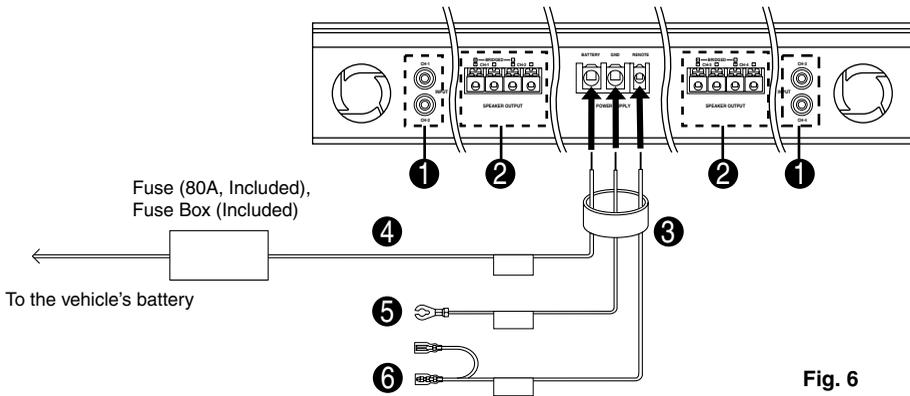


Fig. 6

Before making connections, be sure to turn the power off to all audio components. Connect the yellow battery lead from the amp directly to the positive (+) terminal of the vehicle's battery. Do not connect this lead to the fuse block.

## To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm away from the car harness.
- Keep the battery power leads as far away from other leads as possible.
- Connect the ground lead securely to a bare metal spot (remove any paint, dirt or grease if necessary) of the car chassis.
- If you add an optional noise suppressor, connect it as far away from the unit as possible. Your Alpine dealer carries various noise suppressors. Contact them for further information.
- Your Alpine dealer knows best about noise prevention measures so consult your dealer for further information.

### ❶ RCA Input Jacks

Connect these jacks to the line out leads on your head unit using RCA extension cables (sold separately).

### ❷ Speaker Output Terminals

The MRV-F900 has one set of speaker outputs. Be sure to observe correct speaker output connections and phasing. Connect the positive output to the positive speaker terminal and the negative to negative.

Do not use the speaker (-) terminals as a common lead between the left and right channels. Do not connect this lead to the vehicle's chassis.

#### NOTES:

- Do not connect speaker leads together or to chassis ground.
- Do not connect the speaker output terminals to the battery lead or to the ground lead. Otherwise it may result in malfunction or fire.

### ❸ Insulation Tube

#### 4 Battery Lead (Sold Separately)

Be sure to add a fuse as close as possible to the MRV-F900's battery terminal. This fuse will protect your vehicle's electrical system and the MRV-F900 in case of a short circuit. If you need to extend this lead, the wire gauge should be AWG4 or larger.

##### NOTES:

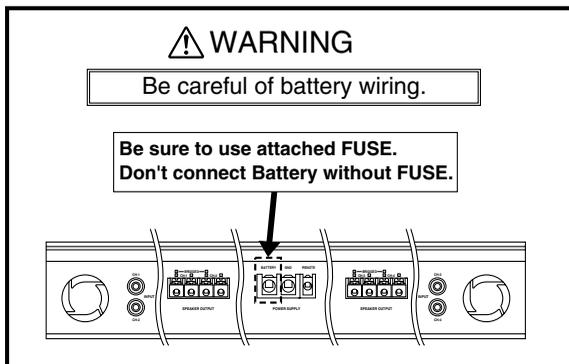
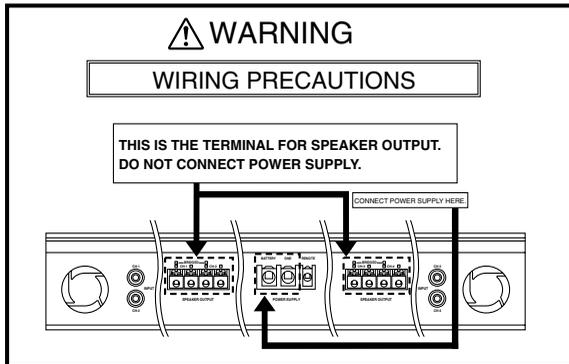
- Please make sure not to short the exposed connector to any grounded metal surface when replacing the fuse or making initial connection.
- When adding a fuse to the battery lead, be sure to use the 80A fuse (supplied) with its fuse holder (supplied).
- Do not place the fuse holder (supplied) in the vehicle's engine compartment because of the high temperatures reached in this area.
- In order to protect the vehicle's battery and the wiring, be sure to use an equivalent replacement for the supplied (80A) fuse.
- The fuse holder (supplied) corresponds to an 80A fuse or lower. It is not suitable for a fuse rated higher than 80A.

#### 5 Ground Lead (Sold Separately)

Connect this lead securely to a clean, bare metal spot on the vehicle chassis. Verify this point to be a true ground by checking for continuity between that point and the negative (-) terminal of the vehicle's battery. Ground all your audio components to the same point on the chassis to prevent ground loops.

#### 6 Remote Turn-On Lead (Blue/White, Sold Separately)

Connect this lead to the remote turn-on or power antenna (positive trigger, (+) 12V only) lead of your head unit.



# Connections

## Cautions on wire lead connections

- Use Power Supply wire sold at your dealer's store.
- Refer to the description below for the proper procedure.  
If you are in doubt about how to make this connection, consult your dealer.

### 1 Check the wire size.

#### NOTES:

- Wire Size (Battery Lead, Ground Lead):  
Recommended wire size for this unit is AWG4 or larger.
- Wire Size (Remote Turn-on Lead):  
Recommended wire size for this unit is AWG8 – AWG14.
- If the wire gauge used is unknown, ask your dealer.

### 2 Remove the insulation from the ends of the wire leads by about 7 – 10mm (9/32" – 3/8"). (Fig. 7)

#### NOTES:

- If length of the exposed wire is too short, a poor connection may occur causing operation failure or sound interruption.
- On the other hand, if the length is too long, an electrical short-circuit may occur.

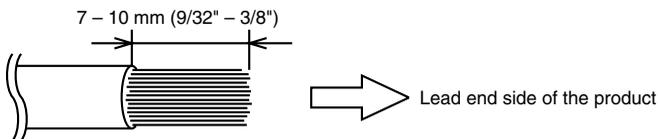
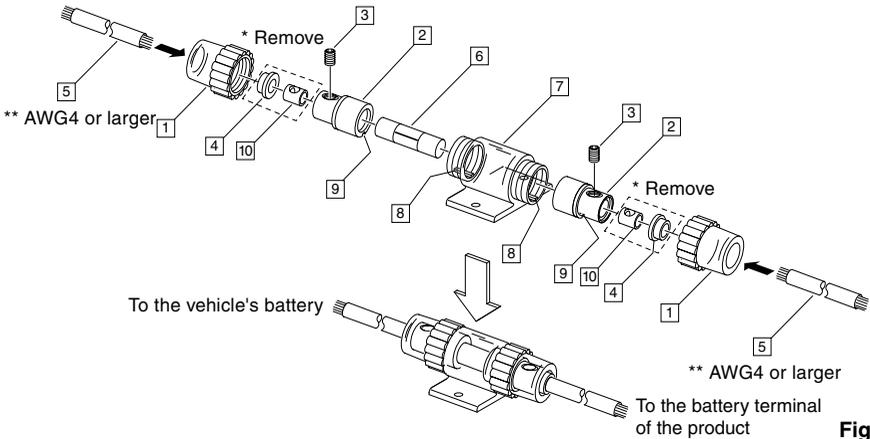


Fig. 7

### 3 Slide the battery lead into the fuse block.

- Slide the battery lead (sold separately) into the fuse block (supplied) as below:
  - 1) Dismantle the fuse box.  
Turn the cap **1** counterclockwise.
  - 2) Turn the hexagon screw **3** of the fuse terminal **2** with a hexagon wrench (supplied).
  - 3) Remove the rubber ring **4** and the metal ring **10**. (They are not used. They are for protection during transportation.)
  - 4) Slide the battery lead **5** (sold separately) through the cap **1**.
  - 5) Insert the tip of the battery lead **5** into the inner part of the fuse terminal **2**.
  - 6) Tighten the hexagon screw **3** of the fuse terminal **2** securely with the hexagon wrench (supplied).
  - 7) Insert the fuse **6** (80A, supplied) as shown in the illustration below.
- \* Fit the projection **8** of the fuse holder **7** into the grooves **9** of the fuse terminal **2**.

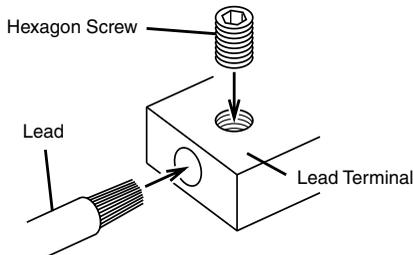


### 4 Turn the hexagon screw of the power terminal. Insert the exposed wire end into the lead terminal. Tighten the Hexagon screw with the Hexagonal Wrench (Included), to fix the lead. (Fig. 9)

**Before making this connection, use insulated shrink tubing to cover any exposed wire extending beyond the terminal.**

#### NOTES:

- Use only the Hexagon screws included.
- For safety reasons, connect the battery leads last.
- To prevent disconnection of the leads or dropping of the unit, do not use the cabling to carry the unit.



# Connection

## Mounting the Terminal Cover

- The product's appearance can be improved by mounting the terminal cover on the main unit after installation.
- Mount the terminal cover after the connections have been made and you have checked that operation is normal.

### 1 Open the door.

- 1) Use the included hexagonal wrench to remove the two hexagonal screws ⑪ fastening the door ⑩.
- 2) Open the door ⑩.

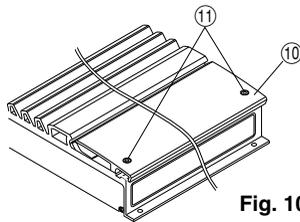


Fig. 10

### 2 Mounting the terminal cover

- 1) Before mounting the terminal cover
  - Fasten the wires securely together in a position in which they will not touch the terminal cover.
- 2) Use the two included hexagon screws (M3) ⑬ to mount the included terminal cover ⑫ to the top surface of the terminal section.
  - \* Tighten the screws securely so that they do not come loose due to vibrations while the vehicle is moving.
- 3) After mounting the terminal cover
  - Check that the cords do not touch the terminal cover.
    - \* If the cords touch the terminal cover, the vibrations of the vehicle may damage the wires or cause short-circuiting.

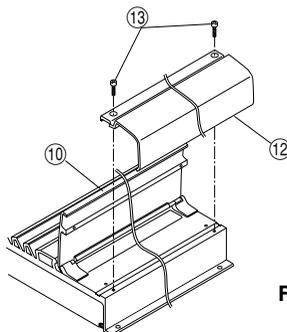


Fig. 11

### 3 Fastening the door

1) Close the door ⑩.

2) Mount the door ⑩ using the two original hexagonal screws ⑪.

\* Tighten the screws securely so that they do not come loose due to vibrations while the vehicle is moving.

#### NOTES:

- Be sure to fasten the door. Failure to do so may lead to malfunction.
- The warranty will be invalidated if the unit is used with the door open.

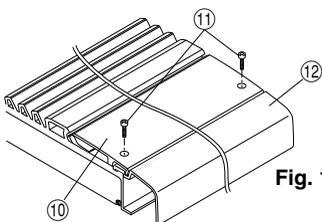
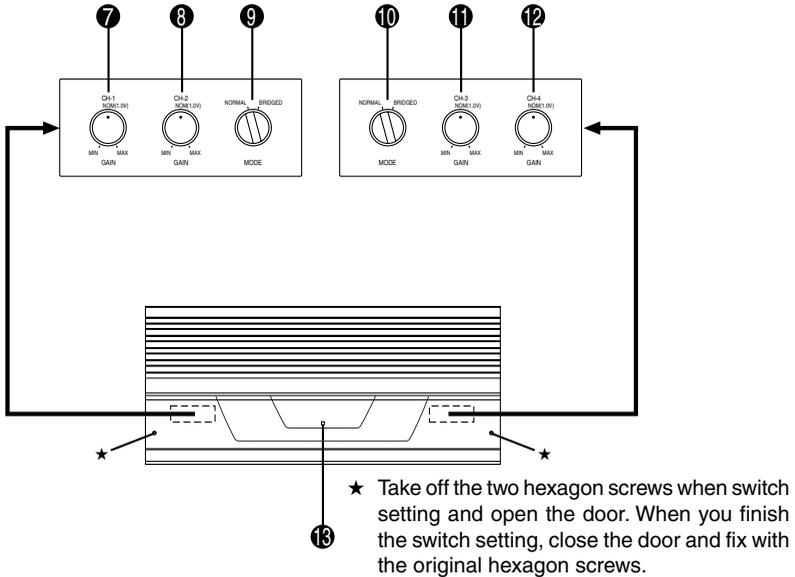


Fig. 12

# Switch Settings



## 7, 8, 11, 12 Input Gain Adjustment Control



Set the MRV-F900 input gain to the minimum position. Using a dynamic CD as a source, increase the head unit volume until the output distorts. Then, reduce the volume 1 step (or until the output is no longer distorted). Now, increase the amplifier gain until the sound from the speakers becomes distorted. Reduce the gain slightly so the sound is no longer distorted to achieve the optimum gain setting.

## 9, 10 Mode Selector Switch



1) Set this switch to the "NORMAL" position for normal 4-channel connections.



2) For bridged connections, set the switch to the "BRIDGED" position.

## 13 Status indicator

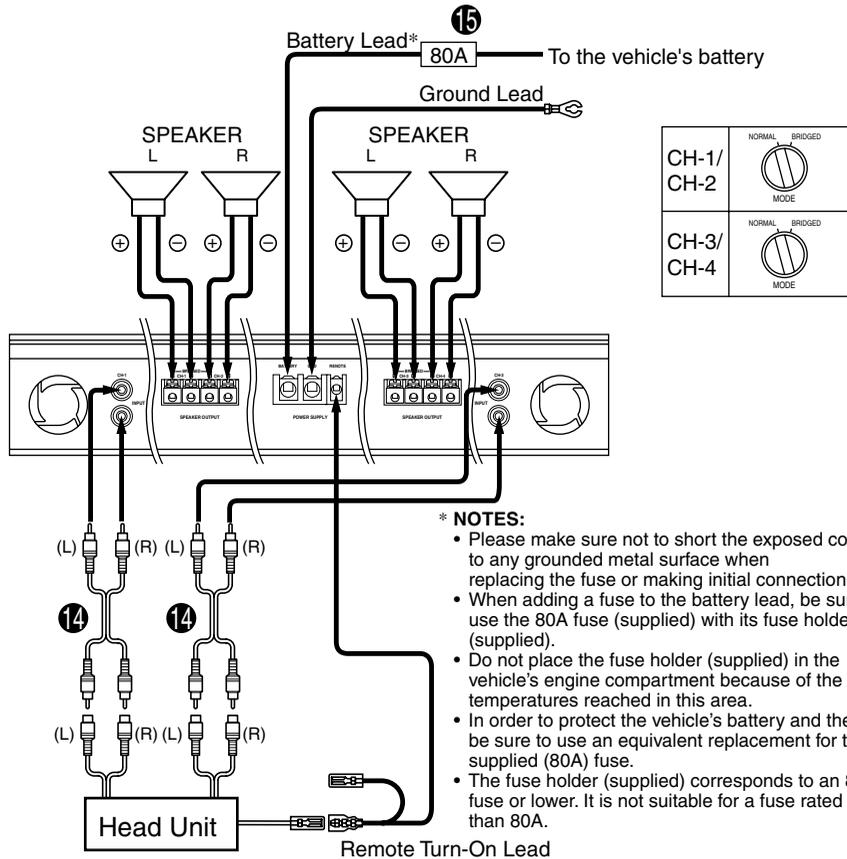
Amplifier status can be confirmed with the indicator.

### • Protection indicator (PROTECTION)

Blue	Red	Condition	Solution
Light		Amplifier circuit is normal.	
	Light	Amplifier circuit is abnormal.	Contact your authorized Alpine dealer.

# Examples of System Expansion

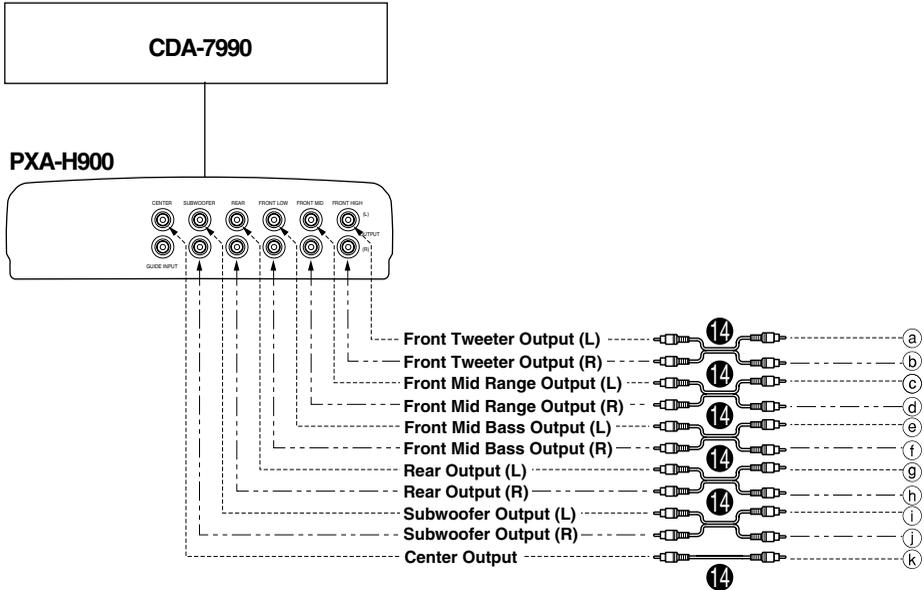
- **SYSTEM A**  
(4ch input, 4ch output)



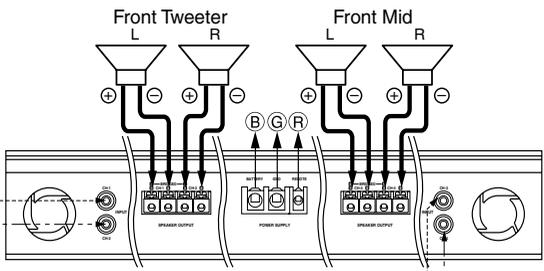
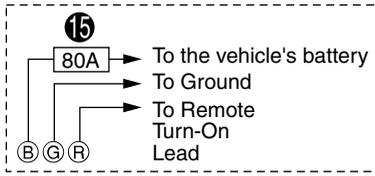
- 14 RCA Extension Cable (Sold Separately)
- 15 Fuse (80A, Included), Fuse Box (Included)

# Examples of System Expansion

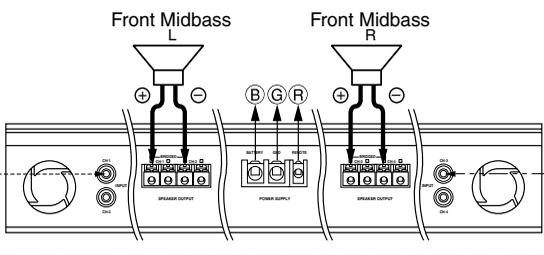
- **SYSTEM B**  
(4ch input, 11ch output)



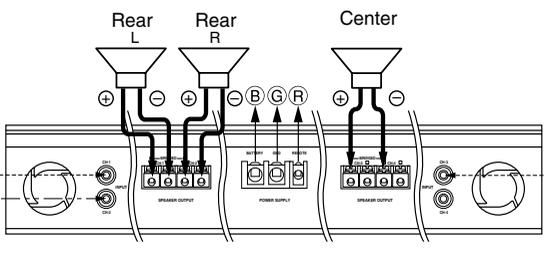
- ⑭ RCA Extension Cable (Sold Separately)
- ⑮ Fuse (80A, Included), Fuse Box (Included)



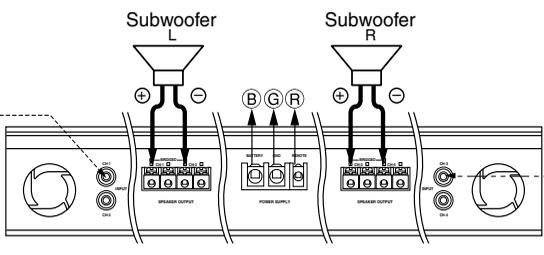
MODE	
CH-1/ CH-2/ CH-3/ CH-4	NORMAL



MODE	
CH-1/ CH-2/ CH-3/ CH-4	BRIDGED



MODE	
CH-1/ CH-2	NORMAL
CH-3/ CH-4	BRIDGED



MODE	
CH-1/ CH-2/ CH-3/ CH-4	BRIDGED

- a
- b
- c
- d
- e
- f
- g
- h
- i
- j
- k

# Information

## In case of difficulty

If you encounter a problem, please review the items in the following checklist. This guide will help you isolate the problem if the unit is at fault. Otherwise, make sure the rest of your system is properly connected or consult your authorized Alpine dealer.

### **Set does not operate.**

#### **Power indicator does not light.**

#### **Fuse blows or similar symptoms.**

- Head unit's power is not on.
  - Turn on the head unit's power.
- Ground cord is not properly connected.
  - Check the ground cord connection.
- Battery power cord is not properly connected.
  - Check the battery power cord connection.
- Fuse blows.
  - Replace with a fuse of the specified capacity.
- Remote on cord is not properly connected.
  - Check the remote on cord connection.
- Speaker wire is short-circuited.
  - Replace the speaker wire.

#### **Power turns on but no sound is produced.**

- Mode selector switch is not set to a proper position for the system.
  - Set the mode selector switch to a proper position for the system.
- RCA connection cord is not properly connected.
  - Insert the cord properly into the INPUT connector.
- Speaker wires are not properly connected.
  - Check the speaker wire connections.
- Input sensitivity control is not set to a proper position for the system.
  - Set the input sensitivity control to a proper position for the system.

# Specifications

Power Output: RMS Continuous Power (at 12.0V, 20 Hz to 20kHz):	
Per channel into 4 ohms (0.08% THD):	75Wx4
Per channel into 2 ohms (0.3% THD):	150Wx4
Bridged into 4 ohms (0.3% THD):	300Wx2
Power Output: RMS Continuous Power (at 14.4V, 20 Hz to 20kHz):	
Per channel into 4 ohms (0.08% THD):	100Wx4
Per channel into 2 ohms (0.3% THD):	200Wx4
Bridged into 4 ohms (0.3% THD):	400Wx2
MAX Power:	
Stereo:	200Wx4
Bridged:	600Wx2
Frequency Response:	10 Hz to 60 kHz (+0, -1 dB)
Signal-to-Noise Ratio (referenced to rated power):	105 dBA
Input Sensitivity (for rated power output):	500mV to 8.5V (1.0V at center detent)
Input Impedance:	10k ohms<
Speaker Impedance:	4 or 2 ohms (Stereo), 4 ohms (Bridged)
Power Requirement:	11 – 16V DC Negative Ground
Weight:	15 kg (33 lbs. 1 oz)

## Dimensions

Width	650 mm (25-19/32")
Height	85.7 mm (3-3/8")
Depth	247 mm (9-47/64")

## <Components>

Parts name	Quantity
End Cover .....	1
Terminal Cover .....	1
Bracket .....	3
Hexagon Wrench .....	1 SET
Self-Tapping Screw .....	4
Machine Screw .....	6
Hexagon Screw .....	2
Double Face Tape .....	1 SET
Cushion .....	1 SET
Insulation Tube .....	1 SET
Fuse Box .....	1
Fuse (80A) .....	1

Due to continuous product improvement, specifications and design are subject to change without notice.

The illustrations included in these instructions may appear different from the actual product due to printing conditions.

# Service Care

## ◆ For North American Customers

### IMPORTANT NOTICE

This Amplifier has been type tested and found to comply with the limits for a Class B computing device in accordance with the specifications in Subpart J of Part 15 of FCC Rules. This equipment generates and uses radio frequency energy, and it must be installed and used properly in accordance with the manufacturer's instructions.

SERIAL NUMBER: \_\_\_\_\_

INSTALLATION DATE: \_\_\_\_\_

INSTALLATION TECHNICIAN: \_\_\_\_\_

PLACE OF PURCHASE: \_\_\_\_\_

### IMPORTANT

Please record the serial number of your unit in the space provided here and keep it as a permanent record. The serial number plate is located on the rear of the unit.

## ◆ For European Customers

Should you have any questions about warranty, please consult your store of purchase.

## ◆ For Customers in other Countries

### IMPORTANT NOTICE

Customers who purchase the product with which this notice is packaged, and who make this purchase in countries other than the United States of America and Canada, please contact your dealer for information regarding warranty coverage.

# MEMO

# MEMO





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