

ALPINE®

PDR-M65

MONO POWER AMPLIFIER

PDR-F50

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.

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WARNING

Points to Observe for Safe Usage

Read this manual carefully before using the system components. They contain instructions on how to use this product in a safe and effective manner. Alpine cannot be responsible for problems resulting from failure to observe the instructions in this manual.

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 NOISES WHILE DRIVING.

Excessive volume levels that obscure sounds such as emergency vehicle sirens or road warning signals (train crossings, etc.) can be dangerous and may result in an accident. LISTENING AT LOUD VOLUME LEVELS IN A CAR MAY ALSO CAUSE HEARING DAMAGE.

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 BATTERIES 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 property damages.
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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.

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.

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.

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.

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.

SERVICE CARE

◆ 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.

ACCESSORIES

- Self-Tapping Screw (M4 × 20).....4
- Hexagon Wrench (Large/Small).....1 SET
- Logo Plate.....1

INSTALLATION

Due to the high power output of the PDR-M65/PDR-F50, 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. Remove the hexagon screws using the supplied Hexagon Wrench (small). (Fig. 1)

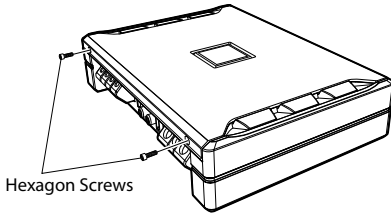


Fig. 1

2. Slide the Top Cover, and lift it to remove. (Fig. 2)
 - Be sure not to damage the indicator area.

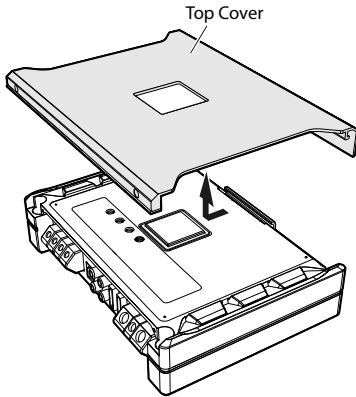


Fig. 2

3. Using the amplifier as a template, mark the four screw locations.
4. Make sure there are no objects behind the surface that may become damaged during drilling.
5. Drill the screw holes.

6. Position the PDR-M65/PDR-F50 over the screw holes, and secure with four self-tapping screws. (Fig. 3)

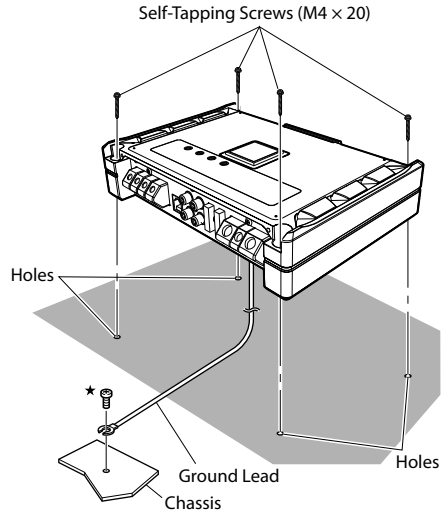


Fig. 3

NOTE:

- To securely connect the ground lead, use an already installed screw on a metal part of the vehicle (marked **(★)**) or a clean, bare metal spot on the vehicle's chassis. Be sure this is a good ground by checking continuity to the battery (-) terminal. Connect all equipment to the same ground point while keeping wire length as short as possible. These procedures will help eliminate noise.

ATTACHING THE TOP COVER AND LOGO PLATE

1. Attach the Top Cover after connections and confirmation of correct operation.
2. Peel the backing paper from the Logo Plate, then attach it to this unit in your desired direction. (Fig. 4)

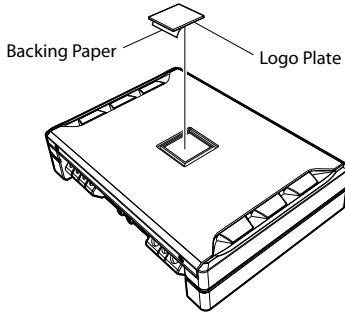


Fig. 4

CONNECTIONS

■ PDR-M65

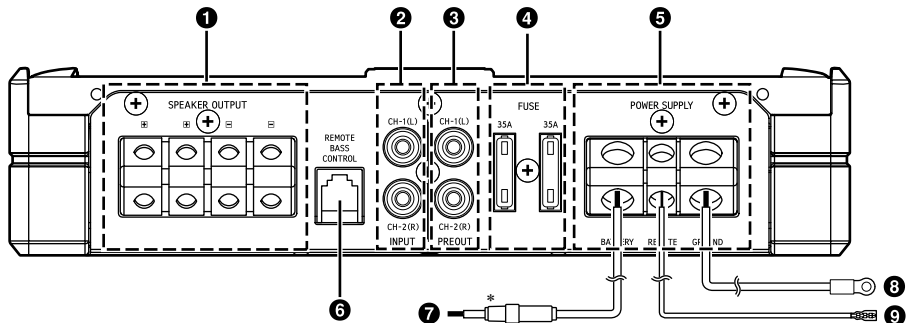


Fig. 5

■ PDR-F50

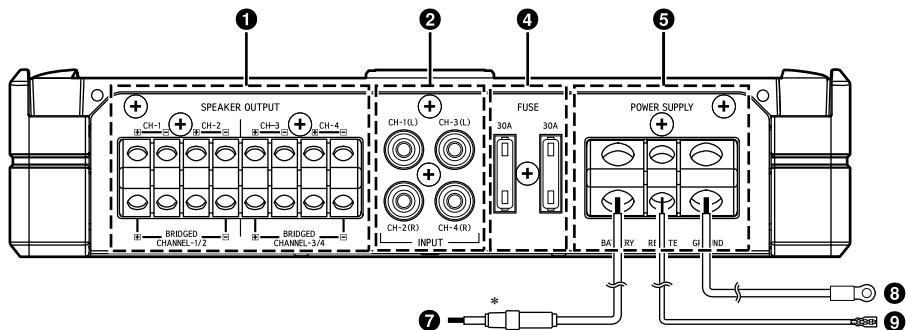


Fig. 6

* Be sure to add an in-line fuse with the battery lead as close as possible to the battery's positive (+) terminal.

Before making connections, be sure to turn the power off to all audio components. Connect the battery lead from the amp directly to the positive (+) terminal of the vehicle's battery with appropriate in-line vehicle's fuse (see Battery Lead section). Do not connect this lead to the vehicle's fuse block.

To prevent external noise from entering the audio system.

- Locate the unit and route the leads at least 10 cm (4") away from the vehicle's 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 or grease if necessary) of the vehicle's 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.

1 Speaker Output Terminals

- The speaker output terminals of this unit are insert terminal.

Be sure to observe correct speaker output connections and polarity in relation to the other speakers in the system. Connect the positive output to the positive speaker terminal and the negative to negative.

For PDR-M65

- The input is stereo but the output is monaural.
- Reversing subwoofer polarity may be desirable in some installations for optimum bass performance.

About Bridged Connections (For PDR-F50)

In the bridged mode, connect the left positive to the positive terminal on the speaker and the right negative to the negative terminal of the speaker. Do not use the speaker (-) terminals as a common lead between the left and right channels.

Use a Y-adaptor (sold separately) for the input when bridging the outputs. (Refer to the "BRIDGED CONNECTIONS" on page 13)

NOTE:

- Do not connect the speaker (-) terminal to the vehicle's chassis.

2 RCA Input Jacks

Connect these jacks to the line out leads on your head unit using RCA extension cables (sold separately). Be sure to observe correct channel connections; Left to Left and Right to Right.

3 Pre-Out Jacks (PDR-M65 only)

These jacks provide a line level output. This is an ideal output for driving a second subwoofer amp. This output is full-range, and is not affected by the crossover.

4 Fuse

PDR-M65	35A x 2
PDR-F50	30A x 2

USE THE CORRECT AMPERE RATING WHEN REPLACING FUSES.

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

5 Power Supply Terminal

6 Remote Bass Control (PDR-M65 only) (Option)

Connect the Remote Bass Control Unit (sold separately) to adjust the output level remotely. This is not to replace appropriate gain level setting between the amplifier and head unit.

7 Battery Lead (Sold Separately)

Be sure to add an in-line fuse with the battery lead as close as possible to the battery's positive (+) terminal. This fuse will protect your vehicle's electrical system in case of a short circuit. See below for appropriate fuse value and minimum wire gauge requirement:

PDR-M65	70 amp fuse, 4 AWG/21 mm ²
PDR-F50	60 amp fuse, 4 AWG/21 mm ²

8 Ground Lead (Sold Separately)

Connect this lead securely to a clean, bare metal spot on the vehicle's 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 while keeping wire length as short as possible.

Minimum required wire gauge for this connection is as follows:

PDR-M65/PDR-F50	4 AWG/21 mm ²
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9 Remote Turn-On Lead (Sold Separately)

Connect this lead to the remote turn-on (positive trigger, (+) 12V only) lead of your head unit. If a remote turn-on lead is not available, see "CONNECTION CHECK LIST" section on page 8 for alternative method.

NOTE:

- When connecting the speaker output leads of the head unit to this unit with an RCA extension cable (sold separately), etc., you do not need to connect the remote turn-on lead, owing to the "REMOTE SENSING" function of this unit. However, the "REMOTE SENSING" function may not work depending on the signal source connected. In such a case, connect the remote turn-on lead to an incoming power supply cord (accessory power) in the ACC position.

⚠ CAUTION

About Power supply wires

If the length of the power and ground cables exceed 1 m, or if you connect more than one amplifier, a distribution block should be used. See below for wire gauge recommendations for distribution block connection to battery and ground (depends upon wire length necessary):

PDR-M65/PDR-F50: 2 AWG (33 mm²) or 1/0 AWG (53 mm²)

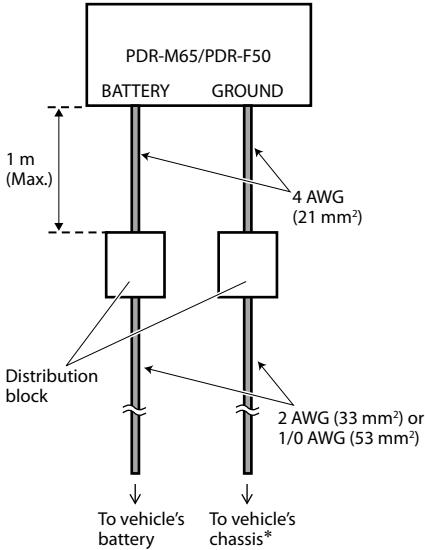


Fig. 7

* Connect all equipment to the same ground point while keeping wire length as short as possible.

Ensure that you install a correctly-rated in-line fuse on the power cable near the battery positive post.

Cautions on wire lead connections

When using third-party wire cables (power supply wire), use the supplied screws to simplify the connection. Refer to the description below for the proper procedure. If you are in doubt about how to make this connection, consult your dealer.

- Check the wire size.
 - Required Wire Size
 - Battery Lead/Ground Lead....4 AWG (21 mm²)
 - Remote Turn-On Lead.....12 AWG (3 mm²)
 - Speaker Output Lead:
 - PDR-M65.....8 AWG (8 mm²)
 - PDR-F50.....12 AWG (3 mm²)
 - If the wire gauge used is unknown, ask your dealer.

- Remove the insulation from the ends of the wire leads by about 7 – 10 mm (9/32" – 13/32"). (Fig. 8)

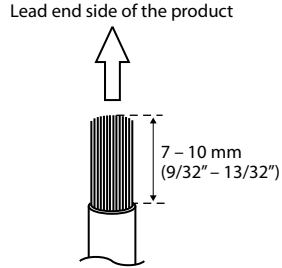


Fig. 8

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.
- Tighten the set screw with the hexagon wrench (included) to secure the lead. (Fig. 9)

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

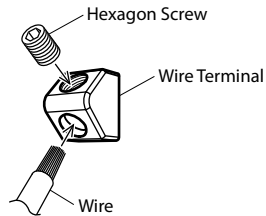


Fig. 9

NOTES:

- Use only the 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 CHECK LIST

Please check your head unit for the conditions listed below: (Fig. 10)

Remote Turn-On Lead

- The head unit does not have a remote turn-on or power antenna lead.
- The head unit's power antenna lead is activated only when the radio is on (turns off in the tape or CD Mode).
- The head unit's power antenna lead is logic level output (+) 5V, negative trigger (grounding type), or cannot sustain (+) 12V when connected to other equipment in addition to the vehicle's power antenna.

If any of the above conditions exist, the remote turn-on lead of your PDR-M65/PDR-F50 must be connected to a switched power source (ignition) in the vehicle. Be sure to use a 3A fuse as close as possible to this ignition tap. Using this connection method, the PDR-M65/PDR-F50 will turn on and stay on as long as the ignition switch is on.

If this is objectionable, a SPST (Single Pole, Single Throw) switch, in addition to the 3A fuse mentioned above, may be installed in-line on the PDR-M65/PDR-F50 turn-on lead. This switch will then be used to turn on (and off) the PDR-M65/PDR-F50. Therefore, the switch should be mounted so that is accessible by the driver. Make sure the switch is turned off when the vehicle is not running. Otherwise, the amplifier will remain on and drain the battery.

- Blue/White
- Power Antenna
- Remote Turn-On Lead
- To other Alpine component's Remote Turn-On Leads
- SPST Switch (optional)
- Fuse (3A)
- As close as possible to the vehicle's ignition tap
- Ignition Source

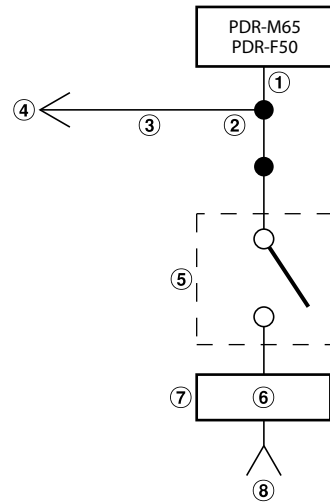


Fig. 10

SWITCH SETTINGS

NOTE:

- Before switching each Selector Switch, turn off the power and insert a small screwdriver, etc., perpendicularly to the Switch.

■ PDR-M65

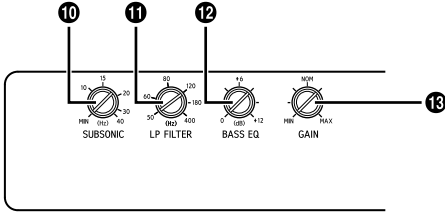


Fig. 11

■ PDR-F50

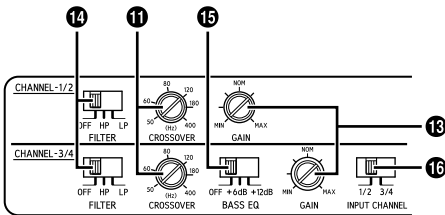


Fig. 12

10 Subsonic Filter (PDR-M65 only)

The subsonic filter for cutting ultra low frequencies from the input signal before being amplified.

This is desirable for several reasons:

- To protect speakers too small or not capable of reproducing ultra low frequencies.
- To minimize power wasted from reproducing inaudible sound.
- To protect subwoofers in vented enclosures from over excursion below the tuning frequency.

11 Crossover Frequency Adjustment Knob (PDR-M65: LP FILTER)

Use this control to adjust the crossover frequency between 50 to 400 Hz.

12 Bass EQ Adjustment Knob (PDR-M65 only)

Add a 50 Hz bass boost up to +12 dB to tune your bass response.

13 Input Gain Adjustment Control

Set the PDR-M65/PDR-F50 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.

14 Crossover Mode Selector Switch (PDR-F50 only)



- a) Set to the "OFF" position when the amplifier will be used for driving full range speakers or when using an external electronic crossover. The full frequency bandwidth will be output to the speakers with no high or low frequency attenuation.



- b) Set to the "HP" position when the amplifier is used to drive a tweeter/midrange system. The frequencies below the crossover point will be attenuated at 12 dB/octave.

NOTE:

- In this case the maximum Bass EQ boost level is reduced.



- c) Set to the "LP" position when the amplifier is used to drive a subwoofer. The frequencies above the crossover point will be attenuated at 12 dB/octave.

15 Bass EQ Selector Switch (CH-3/4) (PDR-F50 only)

Set to “+6 dB” or “+12 dB” position when using for driving a subwoofer.
The center frequency is 50 Hz.

16 Input Channel Selector Switch (PDR-F50 only)



a) This switch setting is for selecting either 2-channel or 4-channel input mode. When set to “1/2”, signal will be copied from CH-1/2 and sent to CH-3/4, eliminating the need for Y-adapters.



b) Setting this switch to “3/4” will keep both inputs, CH-1/2 and CH-3/4 independent. A 4-channel source is required for this mode.

About Power Indicator

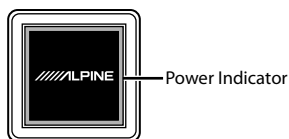


Fig. 13

Lights up when power is on.
Is off when power is off.

Indication color	Status	Solution
Blue	Amplifier circuit is normal.	
Red (blinking)	Operating temperature is high.	Decrease the vehicle's interior temperature to a normal level. The indicator color changes to blue.
Red	Amplifier circuit is abnormal. An electrical short has occurred, or supply current is too high.	Turn off the power supply and eliminate the cause. Then turn on the unit and verify that the indicator color has changed to blue. If it remains red, turn off the unit and consult your dealer.
	Operating temperature is too high.	Decrease the vehicle's interior temperature to a normal level. The indicator color changes to blue.
	Power supply voltage is too high.	Use the correct power supply voltage. The indicator color changes to blue.

SYSTEM DIAGRAMS

- 17 Subwoofer
- 18 Front Speakers
- 19 Rear Speakers
- 20 Head Unit, etc.
- 21 Front Output

- 22 Rear Output
- 23 Subwoofer Output
- 24 RCA Extension Cable (Sold Separately)
- 25 Y-Adapter (Sold Separately)

■ PDR-M65

TYPICAL SYSTEM CONNECTIONS

1 Subwoofer System

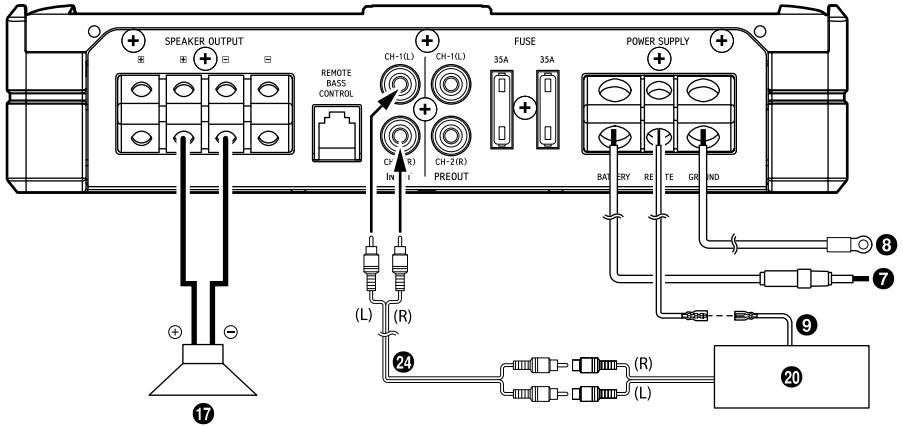


Fig. 14

2 Subwoofer System (MONO)

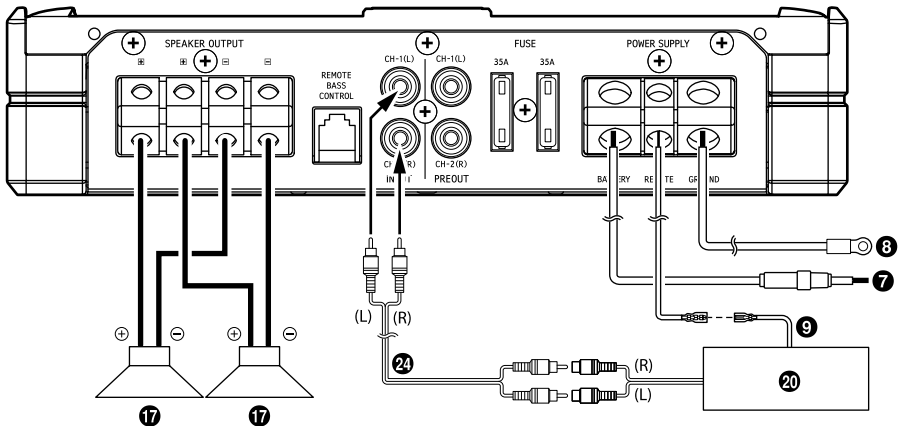


Fig. 15

TYPICAL SYSTEM CONNECTIONS

4 Speaker System (4-Channel Input)

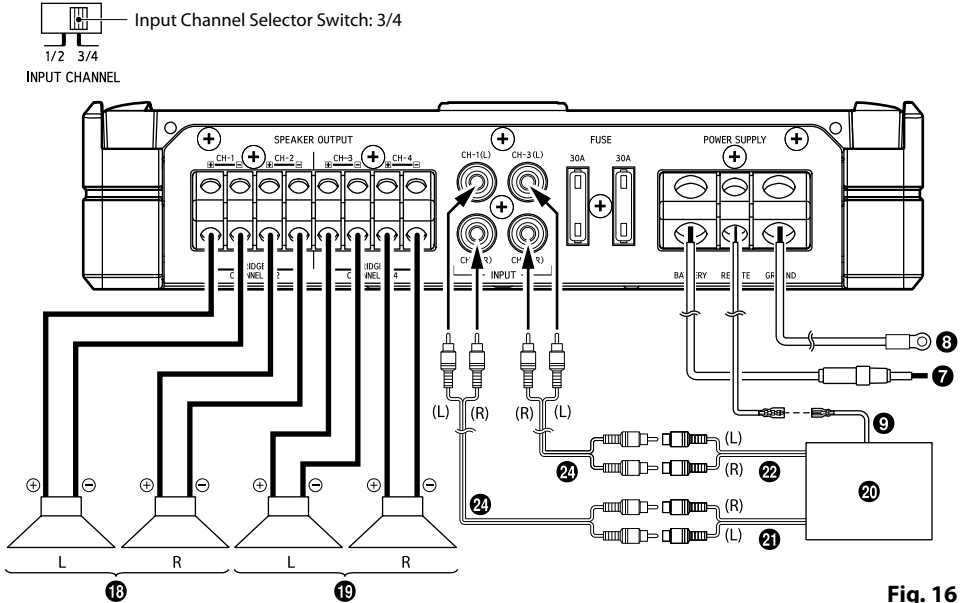


Fig. 16

4 Speaker System (2-Channel Input)

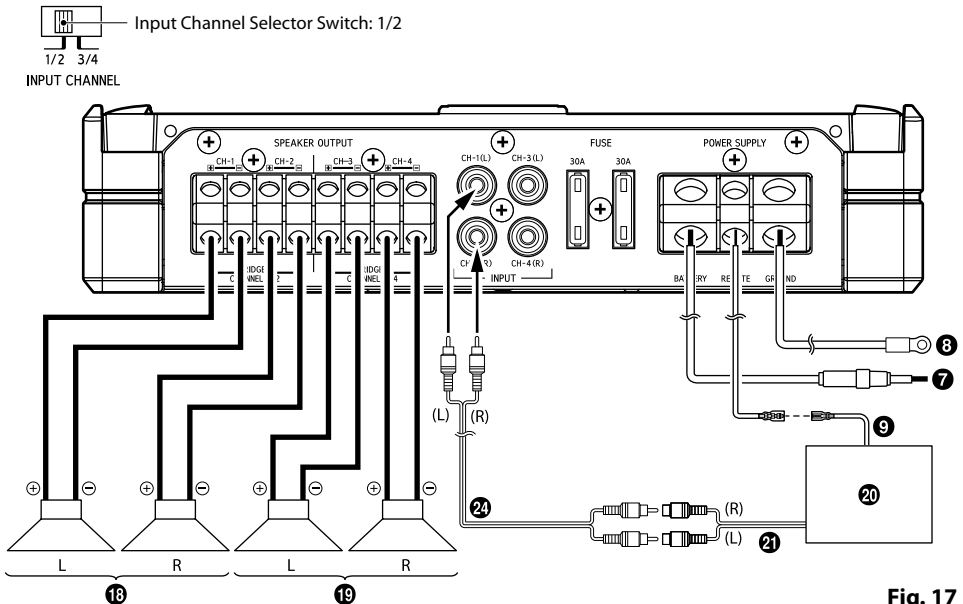


Fig. 17

BRIDGED CONNECTIONS

2 Speaker + Subwoofer System

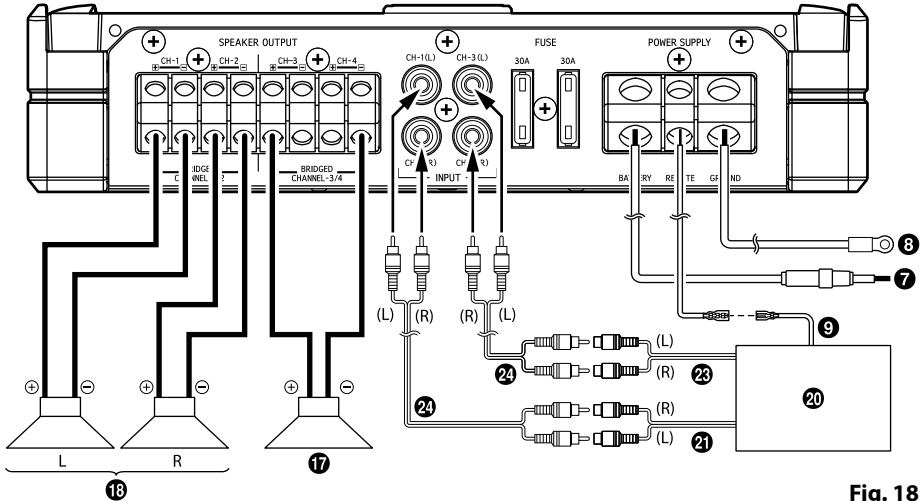
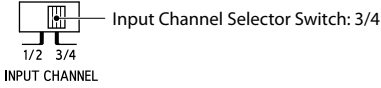


Fig. 18

Important Tips on Bridging an Amplifier

NOTE:

- Low output will result if only one channel input is used. The Y-adaptor is not required if a stereo/mono pair line output is used to drive both inputs of the bridged amp.

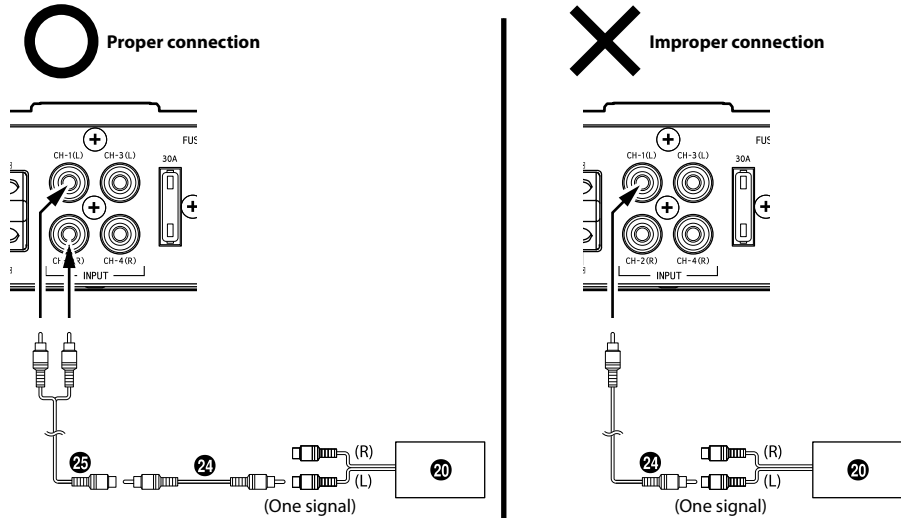


Fig. 19

SPECIFICATIONS

		PDR-M65	PDR-F50
Performance			
Power Output	Per Channel, Ref: 4 Ω , 14.4 V	450 W RMS x 1	85 W RMS x 4
	Per Channel, Ref: 2 Ω , 14.4 V	650 W RMS x 1	125 W RMS x 4
	Bridged, Ref: 4 Ω , 14.4 V	–	250 W RMS x 2
THD+N	Ref: 10 W into 4 Ω	$\leq 0.02\%$	$\leq 0.02\%$
	Ref: 10 W into 2 Ω	$\leq 0.03\%$	$\leq 0.03\%$
	Ref: Rated Power into 4 Ω	$\leq 0.07\%$	$\leq 0.07\%$
	Ref: Rated Power into 2 Ω	$\leq 0.09\%$	$\leq 0.09\%$
S/N Ratio	IHF A-wtd + AES-17 Ref: 1W into 4 Ω	>87 dB	>87 dB
	IHF A-wtd + AES-17 Ref: Rated Power into 4 Ω	>113 dB	>106 dB
Frequency Response	+0/-3 dB, Ref: 1 W into 4 Ω	8 Hz - 400 Hz	8 Hz - 45 kHz
	+0/-1 dB, Ref: 1 W into 4 Ω	10 Hz - 300 Hz	10 Hz - 30 kHz
Damping Factor	Ref: 10 W into 4 Ω at 100 Hz	>1,500	>500
Control			
Input Select	Selectable Input Signal Configuration (2ch/4ch Input)	–	CH-3/4; CH-1/2 or CH-3/4
Input Sensitivity	RCA Input Ref: Rated Power into 4 Ω	0.1 - 4.0 V	0.2 - 4.0 V
Crossover	Variable HPF/LPF	LPF: 50 Hz - 400 Hz (-24 dB/oct.)	50 Hz - 400 Hz (-12 dB/oct.)
	Variable Subsonic	8 Hz - 40 Hz (-24 dB/oct.)	–
Equalizer	Bass EQ (fc=50 Hz)	0 to +12 dB (Variable)	CH-3/4: 0 or +6 or +12 dB (Selectable)
Remote Level*	Linear Attenuation * Requires optional RUX-KNOB	0 to -20 dB	–
General			
Input Impedance		>10 k Ω	
Preamp Output	CH-1/2 Input Pass-through, Buffered	4 V max	–
Dimensions	Width	228.5 mm (9")	
	Height	50.8 mm (2")	
	Depth	165 mm (6-1/2")	
Weight		2.4 kg (5 lb 5 oz)	2.5 kg (5 lb 9 oz)

NOTE:

- Specifications and design are subject to change without notice.