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> DS18 PRO-FR800.1 Full Range Class D Monoblock Amplifier User Manual

DS18 PRO-FR800.1

DS18 PRO-FR800.1 Full Range Class D Monoblock Amplifier

User Manual

INTRODUCTION

Thank you for choosing the DS18 PRO-FR800.1 Full Range Class D Monoblock Amplifier. This amplifier is designed to deliver high-efficiency, powerful audio performance for your vehicle's sound system. This manual provides essential information for proper installation, operation, and maintenance of your amplifier to ensure optimal performance and longevity.



Image: The DS18 PRO-FR800.1 amplifier, showcasing its compact design and terminal layout.

SAFETY INFORMATION

Please read all instructions carefully before installing and operating your amplifier. Failure to do so may result in personal injury or damage to the product or property.

- Always disconnect the vehicle's battery negative terminal before beginning any installation.
- Ensure proper grounding to prevent electrical hazards.
- Use appropriate wire gauges for power, ground, and speaker connections as specified.
- Avoid installing the amplifier in areas exposed to direct sunlight, excessive heat, moisture, or dust.
- Do not operate the amplifier if it has been damaged or exposed to water.
- Seek professional assistance if you are unsure about any installation steps.

PRODUCT OVERVIEW & FEATURES

The DS18 PRO-FR800.1 is a high-performance monoblock amplifier designed for full-range audio reproduction.

- Digital full range 800 watts max power amplifier.
- High efficiency Class D design.
- Capable of running various high-frequency speakers.

PACKAGE CONTENTS

Upon opening the box, please verify that all items are present:

- DS18 PRO-FR800.1 Amplifier
- User Manual (this document)

DIMENSIONS

Understanding the physical dimensions of the amplifier is crucial for proper installation planning.

DIMENSIONS

DS18

PRO



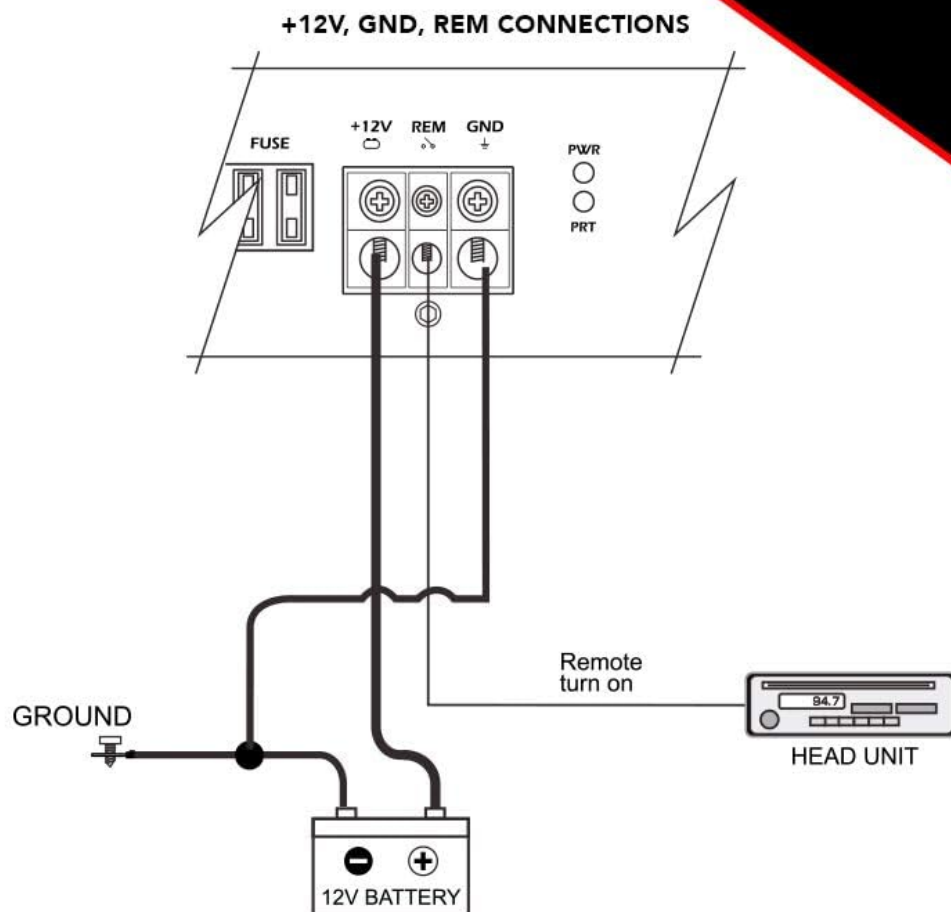
PRO-FR800.1 FULL RANGE CLASS D MONOBLOCK AMPLIFIER

Image: Diagram showing the dimensions of the DS18 PRO-FR800.1 amplifier. Length: 9.84" (250mm), Width: 4.72" (120mm), Height: 1.97" (50mm).

INSTALLATION

Proper installation is key to the amplifier's performance and safety. Follow these steps carefully.

Power, Ground, and Remote Connections



CAUTION: KEEP GROUND OF EQUAL LENGTH.



RECOMMENDATION: USE 12 AWG SPEAKER CABLES TO INCREASE PERFORMANCE.

PRO-FR800.1

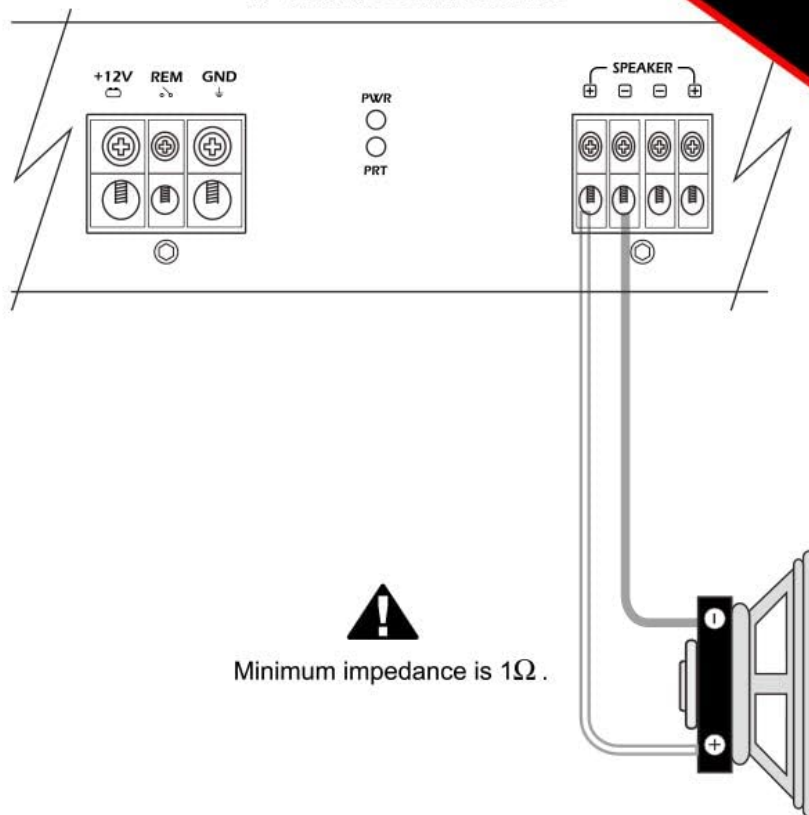
FULL RANGE CLASS D MONOBLOCK AMPLIFIER

Image: Diagram illustrating the proper wiring for +12V (power), REM (remote turn-on), and GND (ground) connections from the amplifier to the vehicle's battery and head unit.

- **+12V Battery Terminal:** Connect a heavy gauge wire (e.g., 8 AWG or larger) from the amplifier's +12V terminal directly to the positive terminal of the vehicle's battery. Install an appropriate fuse (e.g., 30A x 2) within 18 inches (45 cm) of the battery.
- **Remote Terminal (REM):** Connect a remote turn-on wire from your head unit's remote output to the amplifier's REM terminal. This wire signals the amplifier to turn on when the head unit is active.
- **Ground Terminal (GND):** Connect a heavy gauge wire (e.g., 8 AWG or larger) from the amplifier's GND terminal to a clean, unpainted metal surface of the vehicle's chassis. Ensure the ground connection is secure and free of corrosion. *Caution: Keep ground wire of equal length to the power wire for optimal performance.*

Speaker Connections

SPEAKER CONNECTIONS



Minimum impedance is 1Ω .

Speaker Impedance
1~8 ohms



CAUTION: THE AMPLIFIER IS NOT TO BE LINKED/STRAPPED.
SEVERE DAMAGES MAY OCCUR IF USED IRRESPONSIBLY.
ATTEMPTS TO LINK, STRAP OR BRIDGE WILL VOID WARRANTY.

PRO-FR800.1

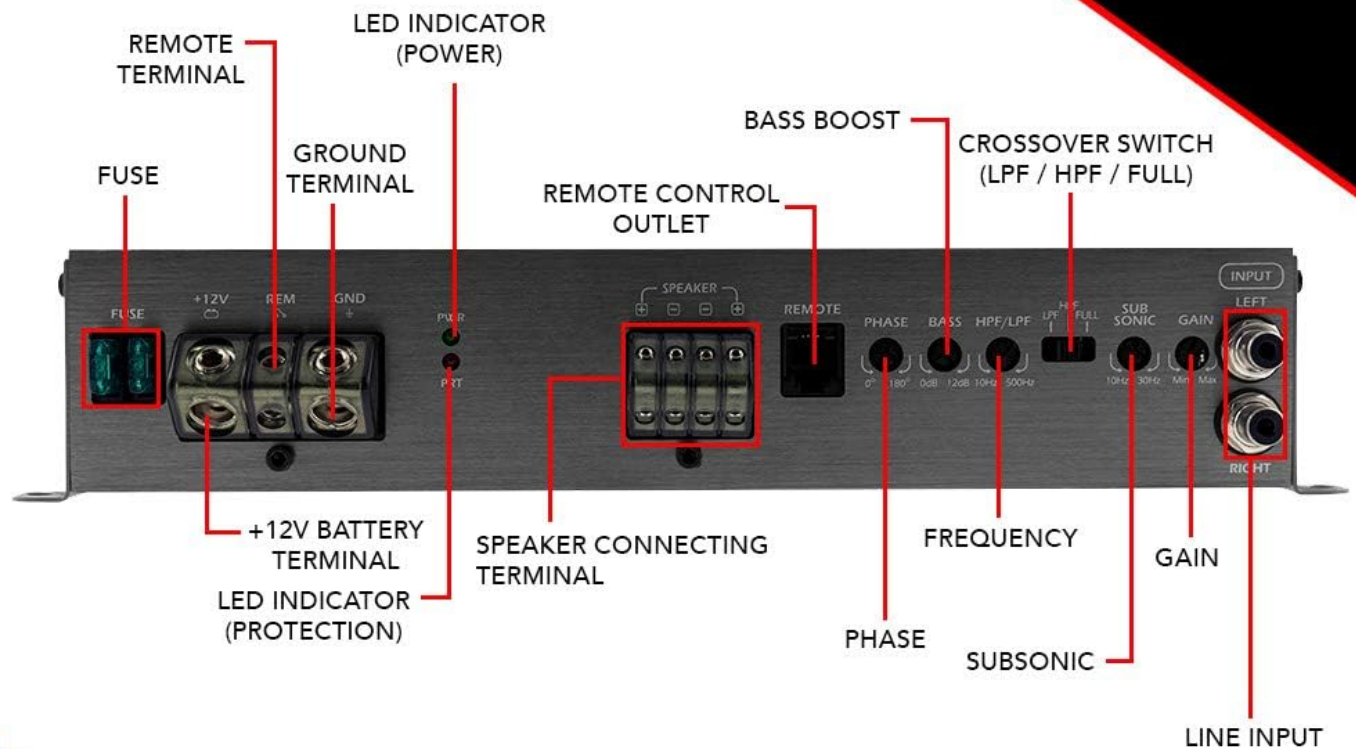
FULL RANGE CLASS D MONOBLOCK AMPLIFIER

Image: Diagram showing how to connect speakers to the amplifier's speaker output terminals. It indicates a minimum impedance of 1Ω.

- Connect your speakers to the amplifier's SPEAKER connecting terminal. The amplifier supports speaker impedances from 1 to 8 ohms.
- *Minimum impedance is 1Ω.* Ensure your speaker configuration meets this requirement.
- *Recommendation:* Use 12 AWG speaker cables to increase performance.
- *Caution:* The amplifier is not to be linked/strapped. Severe damages may occur if used irresponsibly. Attempts to link, strap or bridge will void warranty.

CONFIGURATION & CONTROLS

Familiarize yourself with the various controls and indicators on your amplifier to optimize its performance for your audio system.



PRO-FR800.1

FULL RANGE CLASS D MONOBLOCK AMPLIFIER

Image: Labeled diagram of the DS18 PRO-FR800.1 amplifier's control panel, showing the location of inputs, gains, crossovers, and terminals.

- **Fuse:** Protects the amplifier from overcurrent. The PRO-FR800.1 uses two 30A fuses.
- **+12V Battery Terminal:** Power input from the vehicle's battery.
- **REM Terminal:** Remote turn-on input.
- **GND Terminal:** Ground connection.
- **LED Indicator (Power):** Illuminates when the amplifier is powered on.
- **LED Indicator (Protection):** Illuminates when the amplifier enters protection mode due to a fault (e.g., overheating, short circuit).
- **Speaker Connecting Terminal:** Output terminals for connecting speakers.
- **Remote Control Outlet:** Port for connecting an optional wired remote bass control.
- **Phase:** Phase switch (0°/180°) to align the phase of the amplifier output with other speakers in the system.
- **Bass Boost:** Adjustable bass equalization at 45Hz (0 ~ 12dB).

- **Crossover Switch (LPF / HPF / FULL):**Selects the type of filter applied to the audio signal.
 - **LPF (Low Pass Filter):** Allows only frequencies below the set frequency to pass.
 - **HPF (High Pass Filter):** Allows only frequencies above the set frequency to pass.
 - **FULL:** Allows the full frequency range to pass.
- **Frequency:** Adjustable frequency knob for LPF or HPF (10Hz ~ 500Hz for LPF, 10Hz ~ 500Hz for HPF).
- **Subsonic:** Adjustable subsonic filter (10Hz ~ 50Hz) to remove ultra-low frequencies that can damage subwoofers.
- **Gain:** Input sensitivity control. Adjust this to match the output voltage of your head unit.
- **Line Input (LEFT / RIGHT):**RCA inputs for connecting the audio signal from your head unit.

OPERATING INSTRUCTIONS

Once installed, follow these steps to operate your amplifier:

- **Initial Setup:** Before turning on the system, ensure all connections are secure and correct. Set the GAIN control to its minimum position.
- **Power On:** Turn on your head unit. The amplifier's power LED should illuminate.
- **Gain Adjustment:** Play a familiar piece of music at a moderate volume on your head unit. Slowly increase the GAIN control on the amplifier until you hear slight distortion, then back it off slightly. This sets the maximum clean output.
- **Crossover Adjustment:** Adjust the crossover switch (LPF/HPF/FULL) and frequency knob according to your speaker setup. For subwoofers, use LPF. For full-range speakers, use FULL or HPF as needed.
- **Bass Boost & Phase:** Fine-tune the Bass Boost and Phase controls to achieve desired bass response and sound staging.

SPECIFICATIONS

Detailed technical specifications for the DS18 PRO-FR800.1 amplifier:

PRO Amplifiers	MAX Power (Watts)	Channels	Power Output @ 14.4V				@16V	Speaker Impedance	THD	Input Sensitivity
			4 OHMS	4 OHMS Bridged	2 OHMS	1 OHM	1 OHM			
PRO-FR600.4	600W	4	4 x 150W	2 x 480W	4 x 240W	N/A	N/A	1 - 8 OHMS	4OHM 1KHz:<0.1%	8V ~ 500mV (+/- 5%)
PRO-FR800.1	800W	1	1 x 265W	N/A	1 x 450W	1 x 700W	1 x 800W	1 - 8 OHMS	4OHM 1KHz:<0.1%	8V ~ 500mV (+/- 5%)
PRO-FR1500.1	1,500W	1	1 x 500W	N/A	1 x 850W	1 x 1,300W	1 x 1,500W	1 - 8 OHMS	4OHM 1KHz:<0.1%	8V ~ 500mV (+/- 5%)

PRO Amplifiers	High Pass	Low Pass	Bass Boost	Signal to Noise Ratio	Frequency Response	Fuse Size	Dimensions
PRO-FR600.4	50Hz ~ 500Hz	50Hz ~ 500Hz	N/A	>90dB	10Hz ~ 30KHz (+/-1dB)	3 x 30A	120 x 50 x 280mm
PRO-FR800.1	10Hz ~ 500Hz	10Hz ~ 500Hz	@ 45Hz: 0 ~ 12dB	>90dB	10Hz ~ 20KHz (+/-1dB)	2 x 30A	120 x 50 x 250mm
PRO-FR1500.1	10Hz ~ 500Hz	10Hz ~ 500Hz	@ 45Hz: 0 ~ 12dB	>90dB	10Hz ~ 20KHz (+/-1dB)	4 x 30A	120 x 50 x 300mm

Image: Table detailing power output, impedance, frequency response, and dimensions for various PRO series amplifiers, including the PRO-FR800.1.

Feature	Specification (PRO-FR800.1)
Max Power (Watts)	800W

Feature	Specification (PRO-FR800.1)
Channels	1
Power Output @ 14.4V (2 OHMS)	1 x 450W
Power Output @ 14.4V (1 OHM)	1 x 700W
Power Output @ 16V (1 OHM)	1 x 800W
Speaker Impedance	1 - 8 OHMS
THD	1KHz:<0.1%
Input Sensitivity	8V ~ 500mV (+/- 5%)
High Pass Filter (HPF)	10Hz ~ 500Hz
Low Pass Filter (LPF)	50Hz ~ 500Hz
Bass Boost	@ 45Hz: 0 ~ 12dB
Signal to Noise Ratio	>90dB
Frequency Response	10Hz ~ 20KHz (+/- 1dB)
Fuse Size	2 x 30A
Dimensions (L x W x H)	250 x 120 x 50mm (9.84 x 4.72 x 1.97 inches)
Item Weight	1.81 kg
Voltage	230 Volts (Operating Voltage)
Color	Black
Model Number	PRO-FR800.1
UPC	663593063694

TROUBLESHOOTING

If you encounter issues with your amplifier, refer to the following common problems and solutions:

- **No Power:**
 - Check the in-line fuse near the battery and the fuses on the amplifier. Replace if blown.
 - Verify +12V, Ground, and Remote connections are secure and have proper voltage.
 - Ensure the head unit is on and sending a remote signal.
- **Protection LED On:**
 - Check speaker wiring for shorts (speaker wire touching chassis or positive/negative touching).
 - Ensure speaker impedance is not below 1 ohm.
 - Allow the amplifier to cool down if it has been operating at high temperatures.
- **No Sound:**

- Verify RCA input cables are securely connected to both the head unit and amplifier.
- Check speaker connections at both the amplifier and the speakers.
- Ensure the head unit's volume is up and not muted.
- Adjust the amplifier's GAIN control.

- **Distorted Sound:**

- Reduce the GAIN control on the amplifier.
- Check for proper grounding.
- Ensure speaker impedance is correct.
- Verify the audio source (head unit) is not distorted.

MAINTENANCE

To ensure the longevity and optimal performance of your DS18 PRO-FR800.1 amplifier, follow these simple maintenance guidelines:

- **Cleaning:** Periodically wipe the amplifier's exterior with a soft, dry cloth to remove dust and dirt. Do not use harsh chemicals or abrasive cleaners.
- **Ventilation:** Ensure the amplifier's cooling fins are free from obstructions to allow proper airflow.
- **Connections:** Occasionally check all power, ground, remote, and speaker connections to ensure they remain tight and free of corrosion.
- **Environment:** Avoid exposing the amplifier to extreme temperatures, direct sunlight, or excessive moisture.

WARRANTY & SUPPORT

DS18 products are designed and manufactured to the highest quality standards. For specific warranty terms and conditions, please refer to the warranty card included with your product or visit the official DS18 website. If you require technical assistance or have questions not covered in this manual, please contact DS18 customer support.

DS18 Contact Information:

Please visit ds18.com for the latest support information and contact details.

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Model number, symptoms, what you tried, or the section of the manual you are using.

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