



Performance Installation Guide

MDSP

MDSP10/8A
MDSP8/6A
MDSP8/4A
MDSP6/4A



Dear Customer,

We sincerely thank you for selecting the Morel MDSP amplifier to power your car audio system. Developed with the same passion and innovative philosophy that drives all of Morel's product development, the MDSP amplifiers deliver high-fidelity performance with dynamic, clean, and uncolored power—designed to bring out the full sonic potential of your speakers. With built-in DSP (Digital Signal Processing), these amplifiers offer advanced tuning capabilities and system control, making them an ideal solution for those seeking audiophile-grade sound in even the most complex installations.

Because the MDSP is a DSP-enabled amplifier, proper setup and integration involve many important factors. Designing, configuring, and tuning a system with DSP can be a detailed process and may feel overwhelming to those unfamiliar with this level of audio control. For that reason, we strongly recommend professional installation by an authorized Morel retailer or qualified technician to ensure the best performance, long-term reliability, and a seamless listening experience.

Before installation, please review this manual carefully to ensure safe and effective operation of your MDSP amplifier. If you need assistance with installation, your local authorized Morel retailer is ready to help. You can also reach our support team at:

info@morelhifi.com

info@morelamerica.com

Experience the road like never before with powerful, precision-tuned sound from your MDSP amplifiers.

Serial Number

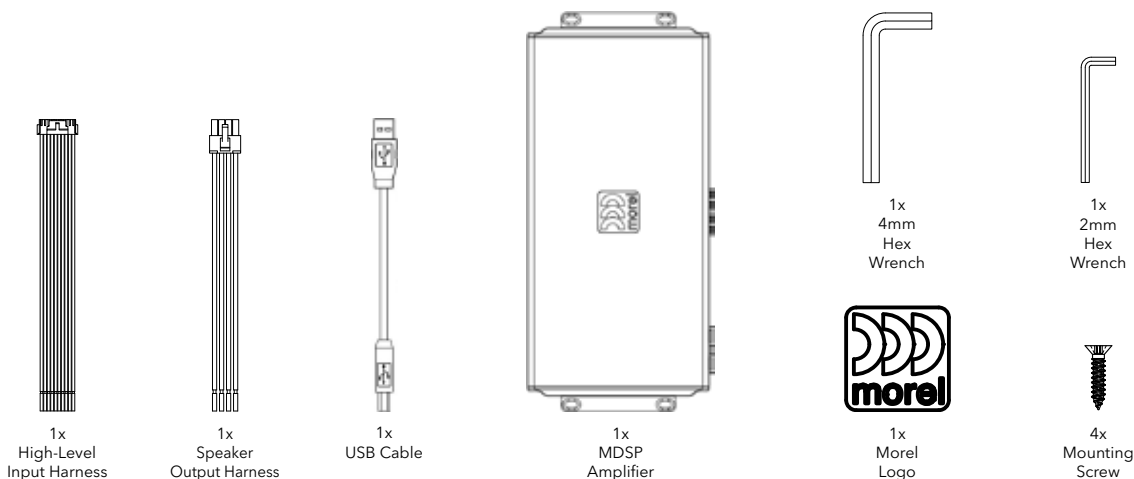
Please take the time to enter the serial number in the space provided below. The serial number can be found on the bottom panel of the amplifier and on the amplifier packaging. This is required in the event that your amplifier requires warranty service and may be helpful in recovering your amplifier in case of a theft. Be sure to store you this manual in a safe location.

SERIAL NUMBER: _____

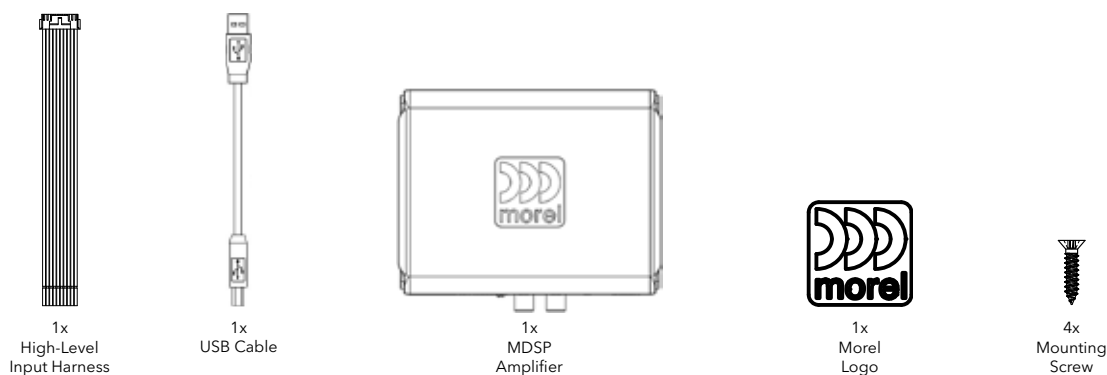


Box Contents

MDSP10/8A, 8/6A, and 8/4A



MDSP6/4A



Available Accessories



Bluetooth Adaptor
(Not applicable for MDSP6/4A)



TuneLink Harness
(Not applicable for MDSP6/4A)

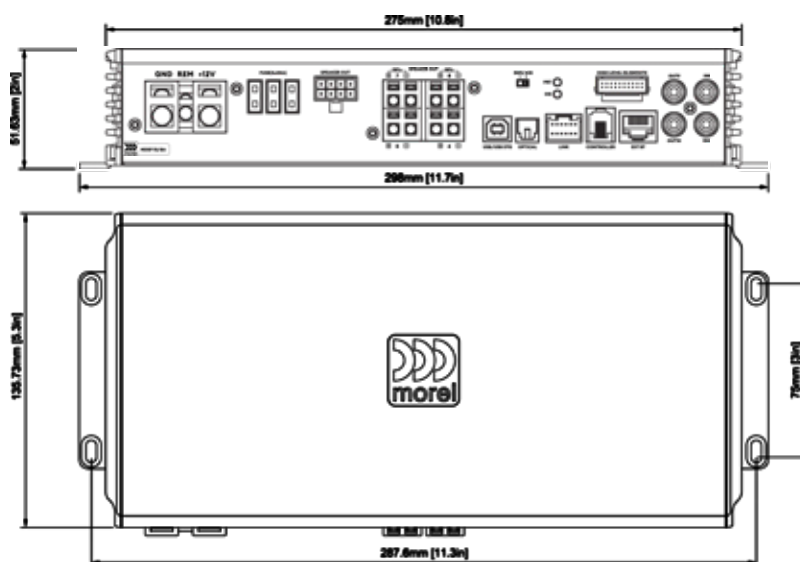


Remote Control



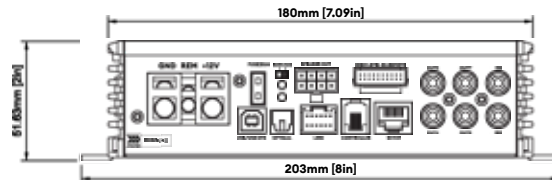
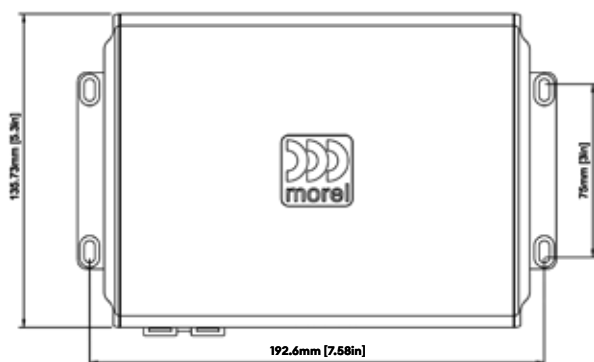
Dimensions

MDSP10/8A and MDSP8/6A

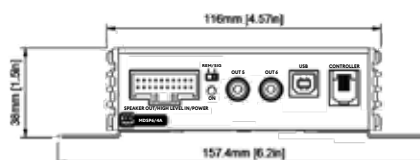
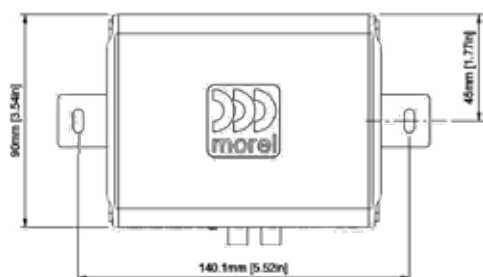


*MDSP10/8A Pictured

MDSP8/4A



MDSP6/4A



Practice Safe Sound

Studies have shown that continuous exposure to high sound pressure levels from high power audio systems can lead to permanent hearing loss. Additionally, high volume levels can obscure noises from outside your vehicle such as emergency vehicles and horns. As a valued Morel customer, we urge you to use common sense and practice restraint in the operation of this product.

Precaution

The MDSP amplifiers are designed to work with a 12V DC electrical system with negative to ground. Use of this product in vehicles with positive ground and/or voltages other than 12V may result in damage to the product and/or vehicle and will void the warranty.



PLEASE MAKE SURE TO CAREFULLY READ AND UNDERSTAND ALL INSTRUCTIONS PRIOR TO INSTALLATION

Mounting the Amplifier

Choose a location for the amplifier with ample ventilation for optimum cooling performance. Be sure the amplifier is mounted with at least 2-inches (50mm) of clearance around the chassis, and never fully enclose the amplifier in a confined space without active ventilation. It is strongly discouraged to mount the amplifier upside down as this will limit the heatsink's ability to remove heat from the circuitry. Also avoid mounting in areas of direct sunlight and in areas of high vibration, such as a subwoofer enclosure.

Proper mounting consists of the chassis being mounted with the base of the amplifier parallel with the floor or perpendicular to the floor with the fins of the heatsink facing upward for effective cooling.

Your amplifier should always be installed in a location that will remain free of moisture and dirt, and in a manner that does not interfere with any of the electronics or safety gear of the vehicle.

For safety purposes, be sure to take the time to properly mount the amplifier using suitable mounting hardware so the amplifier does not come loose in the event of a collision or unforeseen circumstance.

Protection

Please note that there are no chassis mounted fuses on the MDSP amplifiers. Instead our design uses a microprocessor controlled protection circuit which enables the amplifier to optimize the current flow coming into the power supply. This design lowers loss within the circuitry, increase the power output and improves the sound dynamics of the amplifier for the best listening experience. However, for the safety of you and your vehicle, please follow instructions for installing an inline fuse with your amplifier.

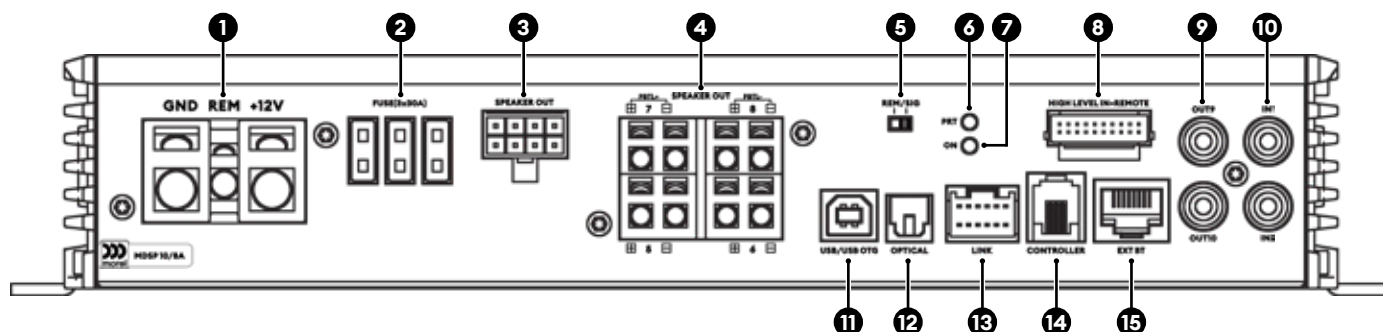
Planning and Installation

For best results, determine the best configuration of your new amplifier and plan the wiring routes to ease installation and optimize performance.

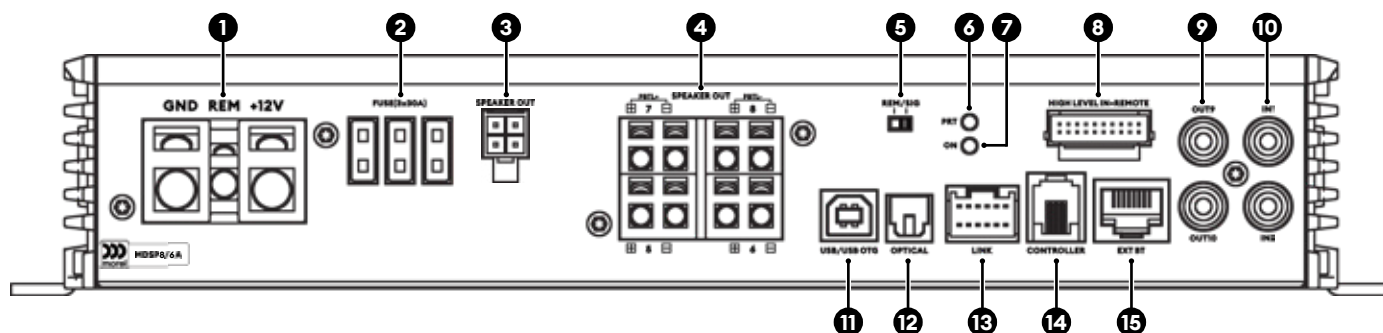
- **IMPORTANT!** Disconnect the vehicle's primary ground terminal from the battery post prior to commencing the installation.
- Make sure the mounting location you chose for the amplifier does not interfere with any functions of the vehicle mechanics and/or electronic devices. Also, be aware of the locations of the gas tank, wiring harnesses, fuel and brake lines, and other vital components of the vehicle prior to drilling any holes in the vehicle's chassis.
- Select high quality signal cables and proper wire. It is highly recommended to use 100% OFC (oxygen free copper) power and speaker wire of proper size for best performance and longevity of the product.
- Do not run power or audio cables on the exterior of the vehicle, including underneath, as this can result in severe damage to the vehicle and person.
- Avoid running power and audio cables next to sensitive electronics within the vehicle, and be sure to route the signal cables away from the power cables.
- Always use rubber grommets when running wire through metal walls or barriers, and use loom to protect the cable from sharp edges or areas of high heat.
- Power amplifiers place an increased load on the electrical charging system. Generally, factory charge systems in good condition should be able to withstand the extra load of an MPS amplifier without a problem. However, multiple amplifier systems can draw excess current and create a serious strain on the electrical system. It is best to consult your audio specialist for advise on whether or not it is necessary to upgrade your electrical system to meet the demands of the audio system.
- Place an insulated in-line fuse holder of the appropriate current capacity within 16 inches (40cm) of the battery positive (+) terminal. Connect to this to the power cable connecting the positive terminal of the amplifier. This fuse is designed to protect the vehicle in the event of a short. Only install the fuse once the power cable has been secured to the amplifier.
- Locate a solid metal area as close to the amplifier as possible to connect the ground wire terminal. Use the same gauge wire for ground as for the power wire. The length of the ground wire should not exceed 36 inches (90cm) from the amplifier. To ensure a solid connection, remove surface paint at the ground point prior to securing the connector in place.

Features

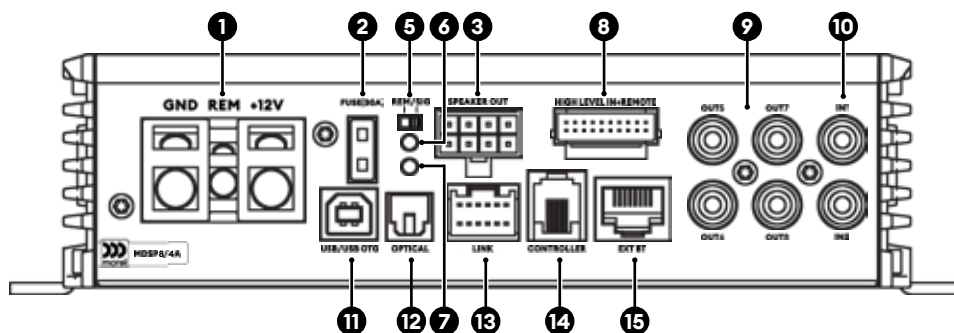
MDSP10/8A



MDSP8/6A



MDSP8/6A



1. Power Connector

Provides power input with wire up to 4 gauge wire and remote turn-on signal to the amplifier.

GND (Negative Power Input): Connects to the vehicle chassis or battery negative terminal.

REM (Remote Turn-On, Center): Receives 12V signal to turn the amplifier on.

+12V (Positive Power Input): Connect to battery positive through a fused power wire.



2. Fusing

30-amp fuses provide overcurrent protection for the amplifier's internal circuits.

- MDSP8/4A 1x 30A
- MDSP8/6A 3x 30A
- MDSP10/8A 3x 30A

3. SPEAKER OUT Connector (Harness)

Up to 4-channels of speaker output through a dedicated harness; each channel provides 80 watts RMS into 4Ω. Designed for simplified installation and clean integration.

****Note:** The MDSP8/4A has the ability to run its output channels at 2Ω and capable of bridging. Please see the "Speaker Connections" section for wiring advice.

SPKR 1 (+)	SPKR 2 (+)	SPKR 3 (+)	SPKR 4 (+)
SPKR 1 (-)	SPKR 2 (-)	SPKR 3 (-)	SPKR 4 (-)

*MDSP10/8A & MDSP8/4A

SPKR 1 (+)	SPKR 2 (+)
SPKR 1 (-)	SPKR 2 (-)

*MDSP8/4A

4. SPEAKER OUT Terminal (not applicable to the MDSP8/4A)

4-channel speaker output via terminal blocks; each channel provides 160 watts RMS at 4Ω or 2Ω and can be bridged to 320 watts RMS at 2Ω. Allows flexible speaker wiring and connection options. See "Speaker Connections" section for wiring advice.

****See "Speaker Connections" section for wiring advice.**

5. Remote In / Signal Sense Selector Switch

Allows selection between two amplifier turn-on modes:

Remote In: Uses a +12V trigger from the head unit, control source, or switched accessory.

Signal Sense: Turns the amplifier on when a high-level signal is detected on H1+/H1-.

6. Protection Indicator

Illuminates when the amplifier enters protection mode (e.g., thermal, short circuit, low voltage).

7. Power Indicator

Blue LED lights up when the amplifier is powered on and operating normally.

8. HIGH LEVEL IN/REMOTE Connector

Accepts high-level signal input from factory head units and supports signal-sensing turn-on.

Channels 1-6: Supports up to 16 volts RMS input.

Channels 7-8: Supports up to 30 volts RMS input.

Remote In (ACC): Accepts +12V input to turn the amplifier on.

Remote Out: Sends +12V output to trigger additional amplifiers or system components.

H 1 (+)	H 2 (+)	H 3 (+)	H 4 (+)	H 5 (+)	H 6 (+)	H 7 (+)	H 8 (+)	N/C	N/C
H 1 (-)	H 2 (-)	H 3 (-)	H 4 (-)	H 5 (-)	H 6 (-)	H 7 (-)	H 8 (-)	REM OUT	ACC

9. RCA Output Connectors

Provides a fully DSP-processed audio signal output for connecting external amplifiers, ensuring precise sound tuning and control. Below are the number of RCA Outputs per MDSP.

- MDSP8/4A x4
- MDSP8/6A x2
- MDSP10/8A x2

10. RCA Input Connector

One pair of RCA inputs for receiving low-level signal from an aftermarket head unit with handling up to 2 volts of input.

11. USB2.0/USB OTG Connector

For firmware updates, DSP tuning, or direct digital audio input via compatible USB devices.

12. Optical Digital Input

Accepts optical digital audio input via compatible cables.

13. TuneLink Connector

Cable that connects two MDSP amplifiers (MDSP10/8A, MDSP8/6A, and MDSP8/4A only) to enable simultaneous tuning of both amplifiers within a single software window.

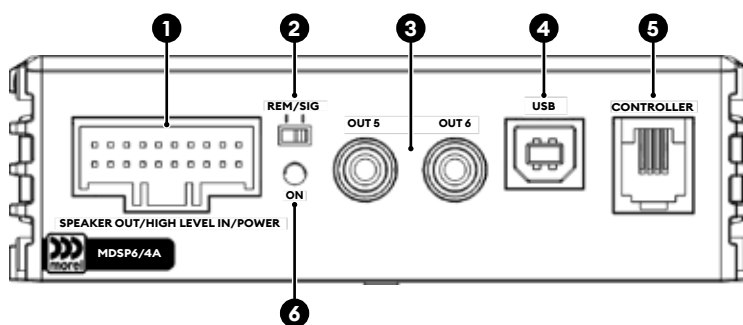
14. Controller Connector

Interface for an external controller to adjust playback, volume, subwoofer level, switch inputs, or access DSP settings.

15. External Bluetooth Connector

Enables Bluetooth audio streaming or wireless tuning via a mobile app.

MDSP6/4A



1. Power Connector, High-Level In, and Speaker Output Connector

These connectors are designed to work with plug-and-play harnesses, providing power to the amplifier, accepting speaker-level input signals, and delivering amplified output to the connected speakers.



GND (Negative Power Input): Connects to the vehicle chassis or battery negative terminal.

+12V (Positive Power Input): Connect to battery positive through a fused power wire.

REM IN (Remote Turn-On): Receives 12V signal to turn the amplifier on.

REM OUT (Remote Out): Sends a 12V trigger to turn on other devices when the amplifier powers on.

HIGH LEVEL IN: Accepts high-level signal (speaker level) input from factory audio systems.

SPEAKER OUT: 4-channel speaker output through a dedicated harness; each channel provides 25 watts RMS at 4Ω.

RR OUT (+)	RR OUT (-)	RL OUT (+)	RL OUT (-)	FR IN (-)	FL IN (-)	RL IN (-)	RR IN (-)	GND	+12V
FL OUT (+)	FL OUT (-)	FR OUT (+)	FR OUT (-)	FR IN (+)	FL IN (+)	RL IN (+)	RR IN (+)	REM OUT	REM IN

2. REM / SIG Selector Switch

Selects the amplifier's turn-on mode between Remote In (triggered by a 12V remote signal) or Signal Sense (automatically turns on when an input signal is detected).

3. RCA Output

Provides a fully DSP-processed audio signal output for connecting external amplifiers, ensuring precise sound tuning and control.

4. USB Connector

Provides a direct connection to the amplifier for DSP tuning and configuration.

5. Controller Connector

Interface for an external controller to adjust playback, volume, subwoofer level, switch inputs, or access DSP settings.

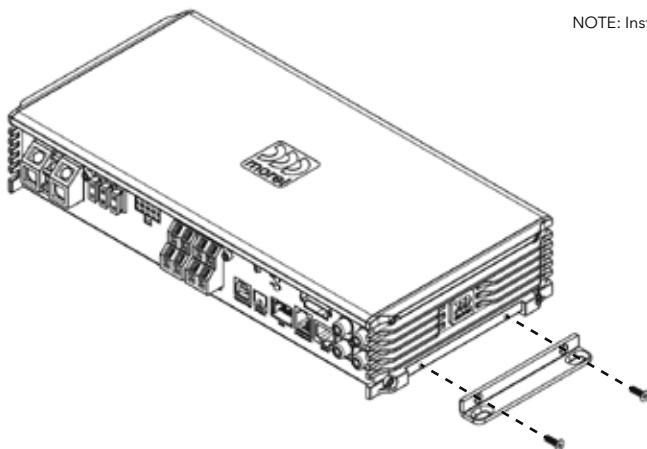
6. Power / Protection Indicator

The LED glows blue during normal operation and flashes blue when connected for tuning via Bluetooth or USB. If the amplifier enters protection mode, the LED turns red. It will exit protect automatically once the issue is resolved or after a power cycle. Users should identify the cause of the protect condition before resuming listening.



Mounting

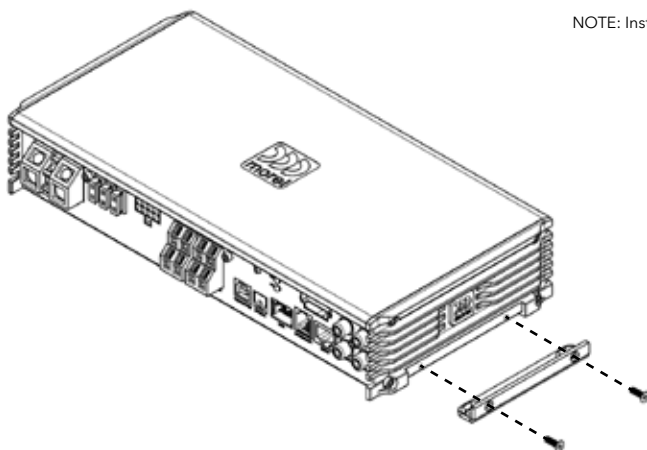
MDSP Exposed Mounting Feet



NOTE: Installation is for the MDSP10/8A, MDSP8/6A, and MDSP8/4A.

*MDSP10/8A Pictured

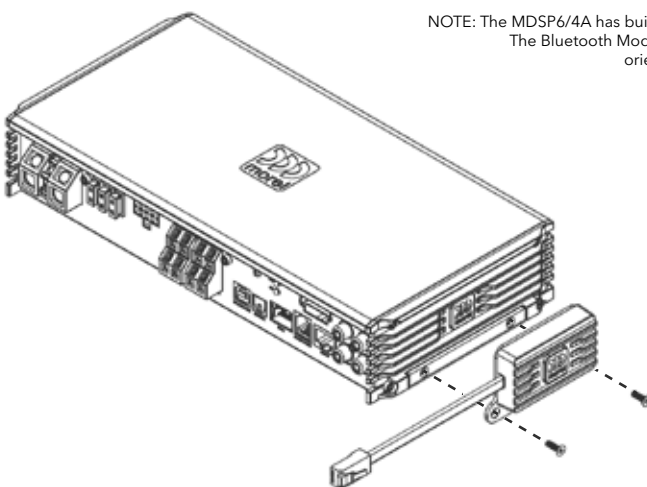
Discrete Mounting Feet



NOTE: Installation is for the MDSP10/8A, MDSP8/6A, and MDSP8/4A.

*MDSP10/8A Pictured

Mounting The Bluetooth Module

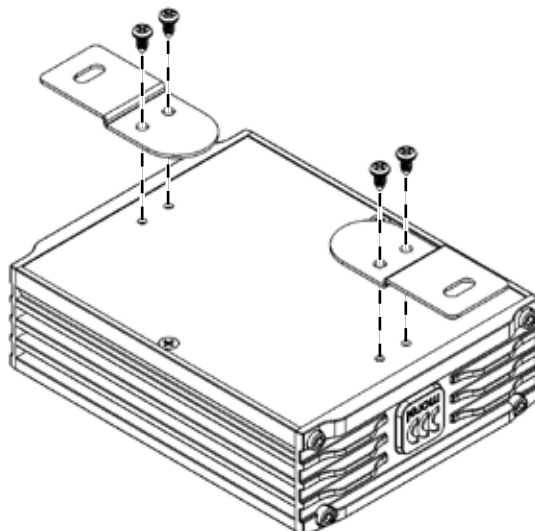


NOTE: The MDSP6/4A has built in Bluetooth and does not require this mounting process. The Bluetooth Module mounting plate can only be used with the Hidden Feet orientation and utilizes the feet mounting bolts in the amplifier

*MDSP10/8A Pictured

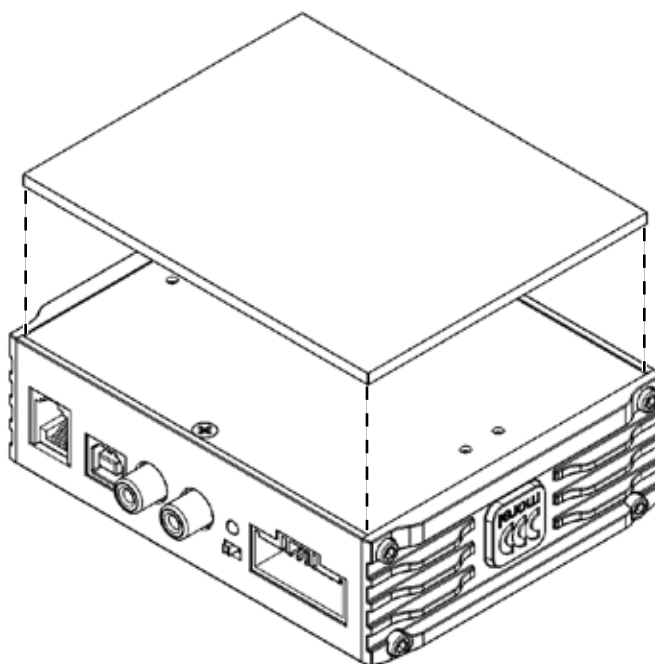
MDSP6/4A Exposed Mounting Feet

The mounting feet are attached to the back plate of the amplifier and provide multiple options for securely installing the unit. Each foot includes openings that allow the amplifier to be fastened using screws or zip ties, ensuring stable mounting in a wide range of installation environments.



MDSP6/4A Velcro and Adhesive Mounting Feet

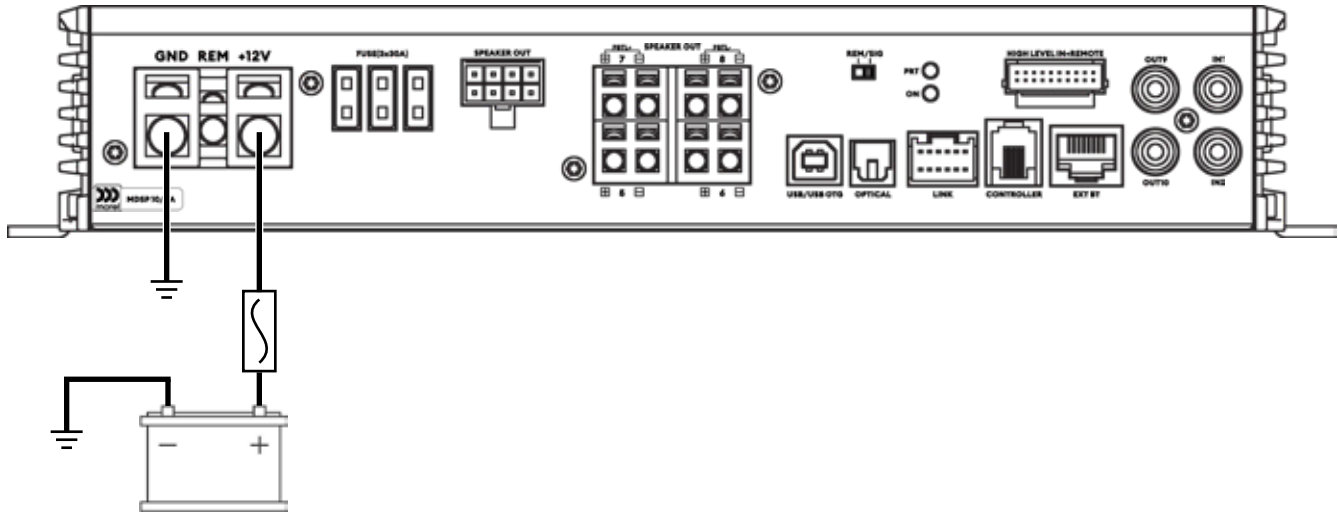
Both a Velcro and Adhesive mounting pad are included for situations where screws cannot be used or the mounting feet are difficult to access. This provides an alternative secure mounting method while maintaining serviceability and ease of removal.



Main Power Connections and Fusing

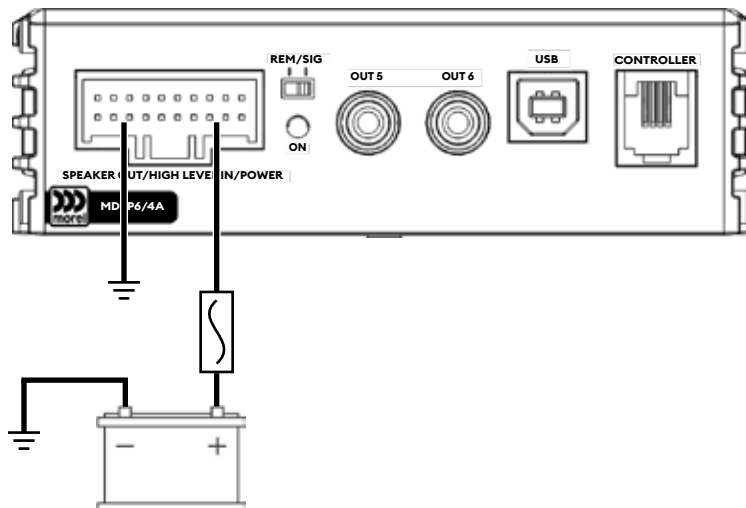
MDSP10/8A, MDSP8/6A, and MDSP8/4A

The MDSP full size series amplifiers require 4 AWG wire for both power and ground connections to ensure sufficient current delivery. A fuse must be installed on the power cable within 18 inches (45 cm) of the battery to protect the vehicle and system.



MDSP6/4A

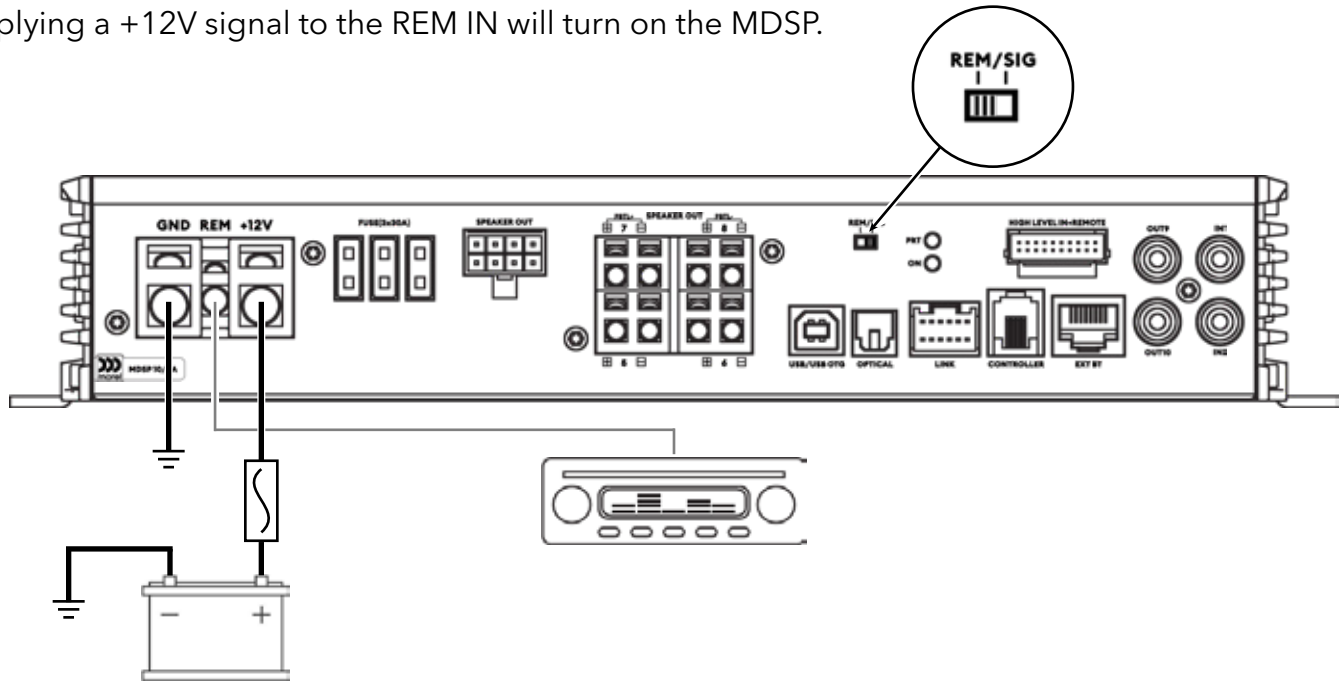
The MDSP6/4A amplifier suggests using 10 AWG wire for both power and ground connections to ensure proper current delivery and reliable performance. A fuse should be installed on the power cable within 18 inches (45 cm) of the battery to protect the vehicle and the audio system.



Remote Turn On

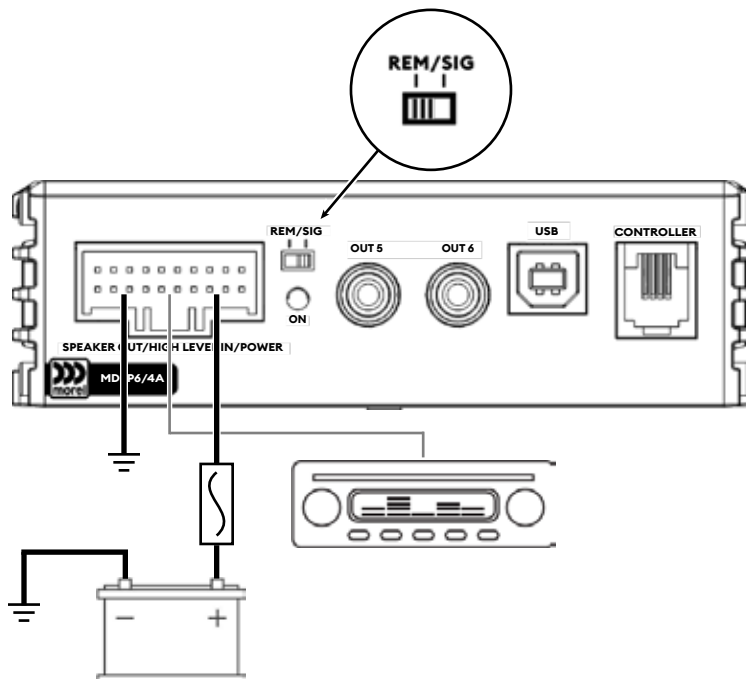
MDSP10/8A, MDSP8/6A, and MDSP8/4A

Supplying a +12V signal to the REM IN will turn on the MDSP.



MDSP6/4A

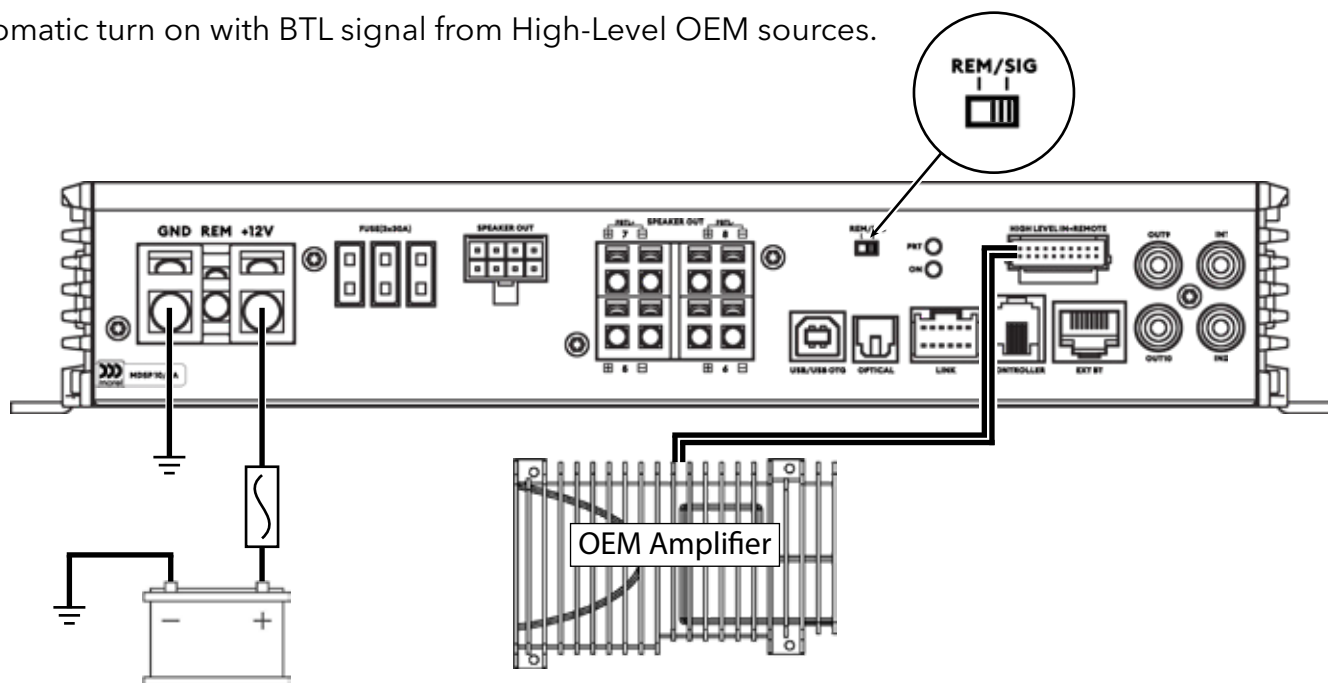
Supplying a +12V signal to the REM IN will turn on the MDSP.



Signal Sense Turn On

Signal Sensing Turn On (MDSP10/8A, MDSP8/6A, and MDSP8/4A)

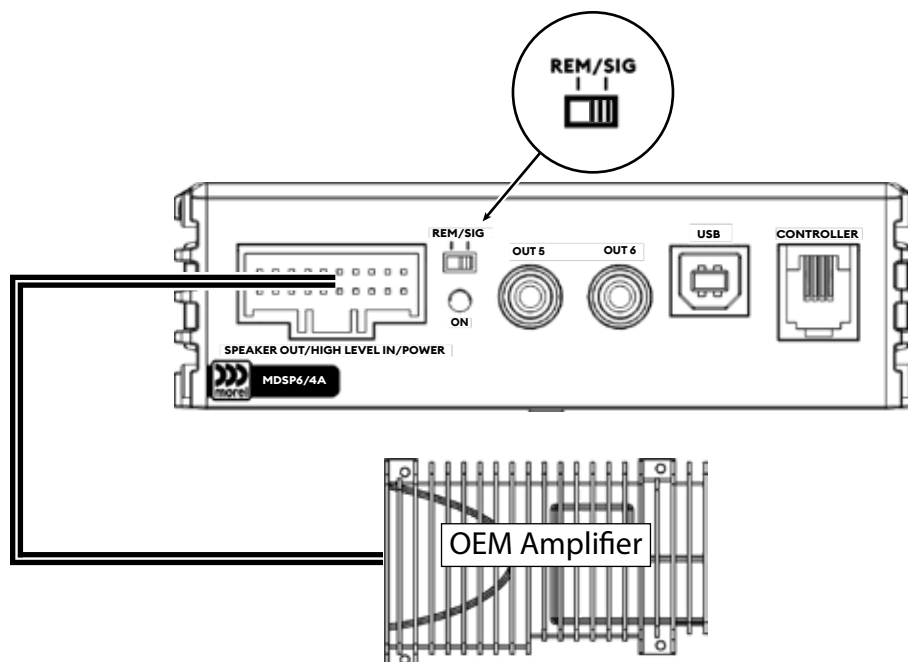
Automatic turn on with BTL signal from High-Level OEM sources.



IMPORTANT: SENSE function utilizes High-Level Input #1 (+) and (-) to turn on the MDSP.

Signal Sensing Turn On (MDSP6/4A)

Automatic turn on with BTL signal from High-Level OEM sources.

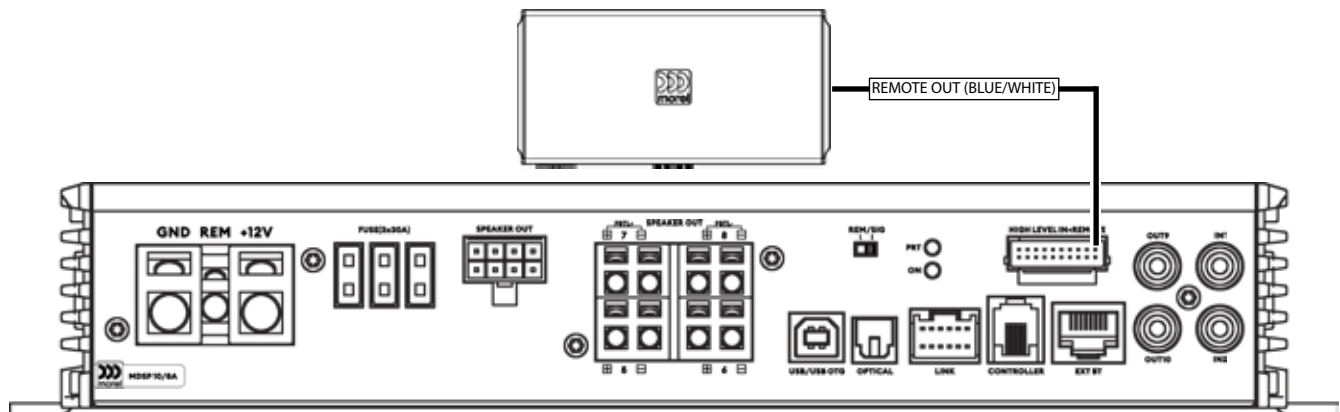


IMPORTANT: SENSE function utilizes High-Level Input FL (+) and (-) to turn on the MDSP.

Remote Out

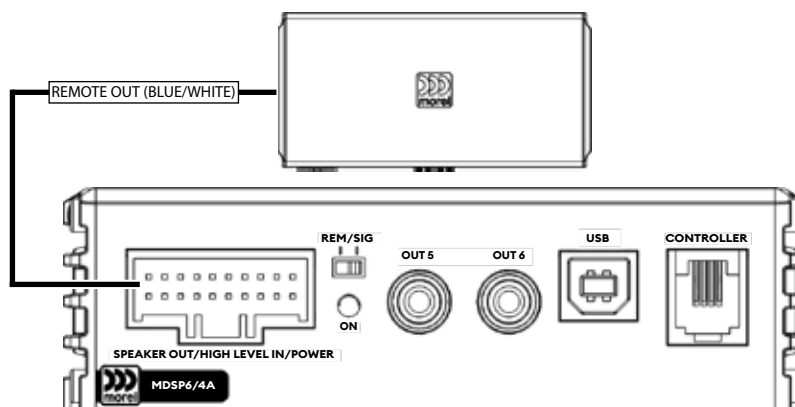
MDSP10/8A, MDSP8/6A, and MDSP8/4A

The full-size MDSP features a REM OUT that provides a switched output to power on additional system components when the unit turns on. This output ensures proper system sequencing and reliable startup behavior for all connected devices, with adjustable turn-on and turn-off timing available through the MDSP software to suit system requirements.



MDSP6/4A

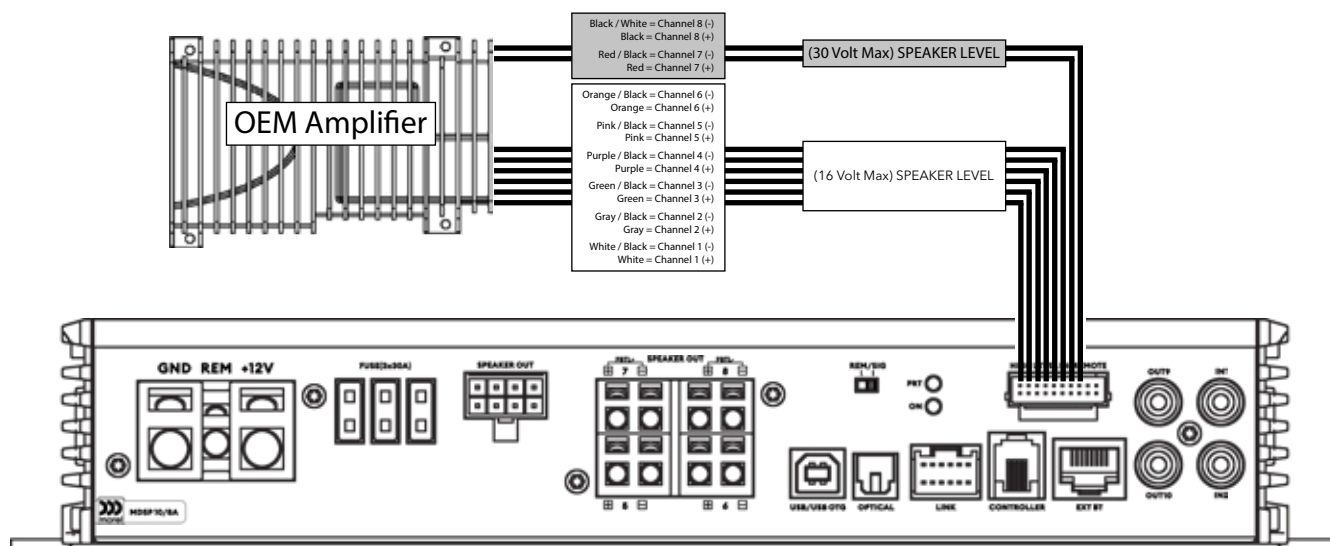
REM OUT provides a switched output to power on additional system components when the MDSP turns on. This output ensures proper system sequencing and reliable startup behavior for connected devices.



High-Level (Speaker-Level) Input

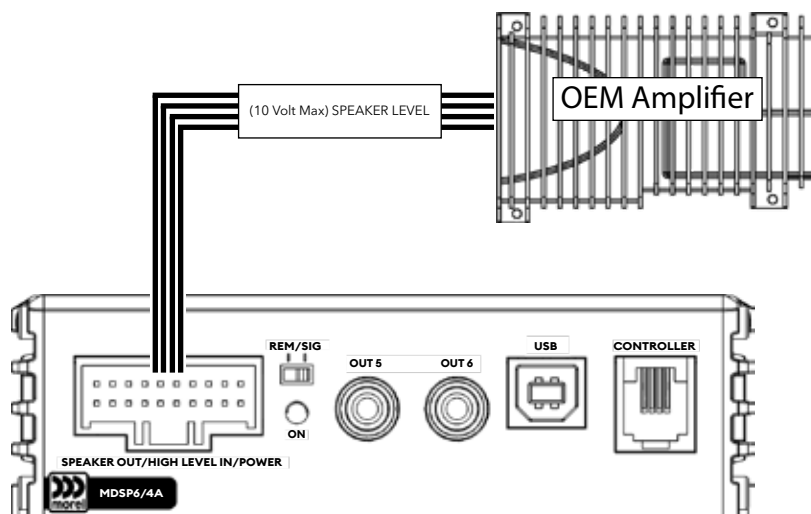
MDSP10/8A, MDSP8/6A, and MDSP8/4A

Eight high-level (speaker-level) inputs interface with OEM audio systems and factory amplifiers. Integrated SLAM circuitry provides automated load resistors to keep the system active. Channels 1-6 accept up to 16 V RMS, while Channels 7-8 handle up to 30 V RMS for compatibility with high-power OEM outputs.



MDSP6/4A

Four high-level (speaker-level) inputs are provided to interface directly with OEM audio systems and factory-installed amplifiers. Channels 1-4 are designed to accept input signals up to 10 V RMS, ensuring compatibility with a wide range of high-power factory outputs without the need for additional signal attenuation.

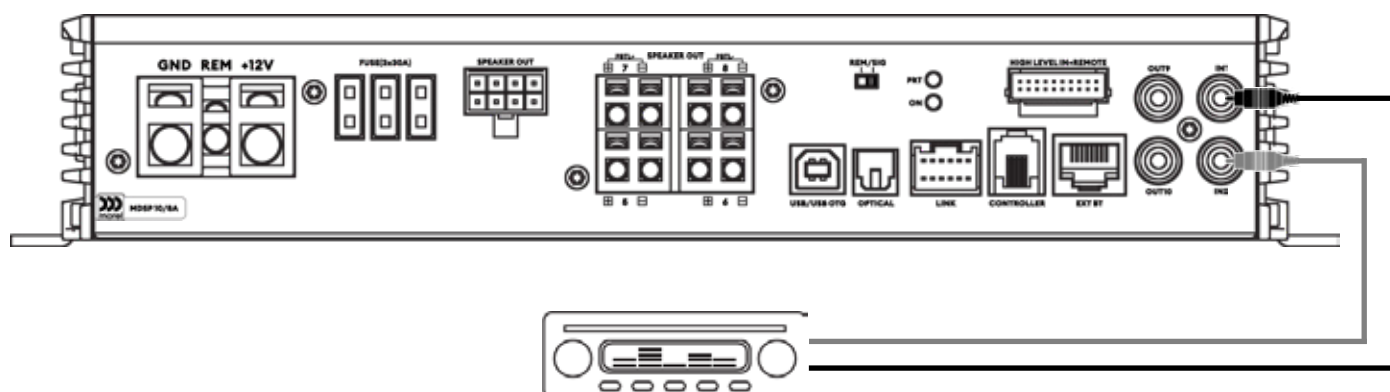




Low-Level (RCA) Input

MDSP10/8A, MDSP8/6A, and MDSP8/4A

Low-level inputs utilize RCA connections to allow direct integration with aftermarket source units. These inputs provide a clean, low-noise signal path for optimal audio performance and system flexibility.



MDSP6/4A

The MDSP6/4A does not include low-level (RCA) inputs and is designed to operate exclusively using high-level (speaker-level) inputs for system integration. Bluetooth connectivity is also provided for wireless audio streaming and system setup convenience.

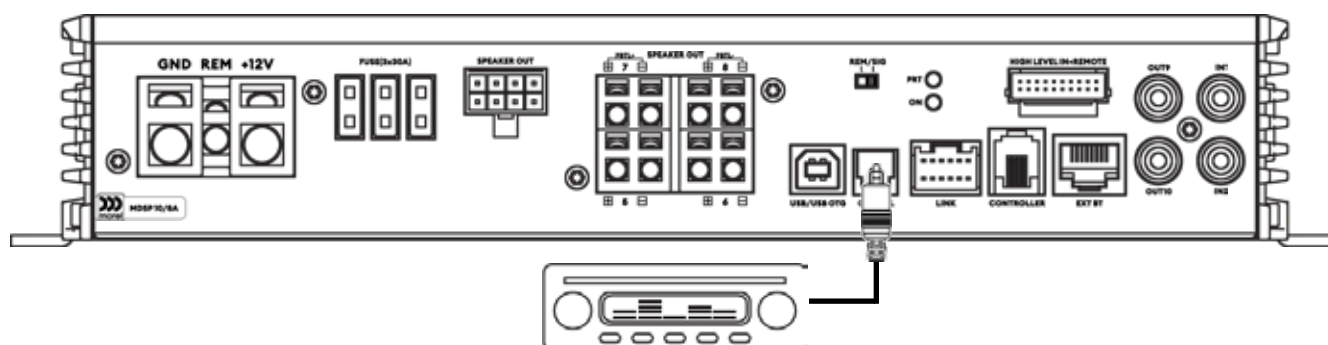
Optical (TOSLINK) Input

MDSP10/8A, MDSP8/6A, and MDSP8/4A

A TOSLINK optical input is included on MDSP full-size amplifiers, supporting stereo PCM audio up to 96 kHz / 24-bit. Use a TOSLINK cable to connect a compatible source and activate the input via the Morel MDSP software.

Ways to select the Optical Input:

- DRC Controller - From a DRC controller.
- Auto Input Switching - Enable in the Morel MDSP software (Mixer Source) to switch automatically when a signal is detected.



IMPORTANT:

- If your source outputs these formats, switch it to STEREO mode for proper playback.
- Multichannel formats like Dolby Digital (AC3) or DTS are not supported.
- The optical input supports stereo PCM signals only.

MDSP6/4A

Bluetooth connectivity and high-level (speaker-level) inputs serve as the primary audio sources for the MDSP6/4A, enabling both wireless streaming and direct integration with OEM audio systems. Optical (TOSLINK) audio input is not supported.

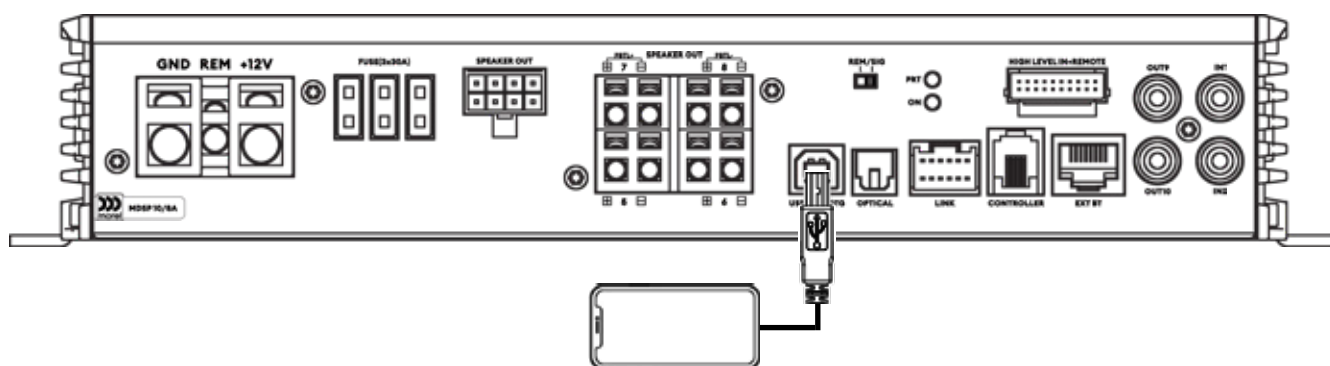
Direct Digital USB Audio Input (On The GO / OTG)

MDSP10/8A, MDSP8/6A, and MDSP8/4A

MDSP Full Size amplifiers feature a USB OTG input for stereo PCM audio up to 96 kHz/24-bit. Connect a compatible device with a USB-B OTG cable and enable the input in the Morel MDSP software.

Ways to select the Optical Input:

- DRC Controller - From a DRC controller.
- Auto Input Switching - Enable in the Morel MDSP software (Mixer Source) to switch automatically when a signal is detected.



IMPORTANT:

- If your source outputs these formats, switch it to STEREO mode for proper playback.
- Multichannel formats like Dolby Digital (AC3) or DTS are not supported.
- The OTG input supports stereo PCM signals only.

MDSP6/4A

The MDSP6/4A is designed to operate using high-level (speaker-level) inputs and Bluetooth connectivity as its primary audio sources. High-level inputs provide direct integration with OEM audio systems, while Bluetooth enables wireless audio streaming and convenient setup. OTG USB audio input is not supported.

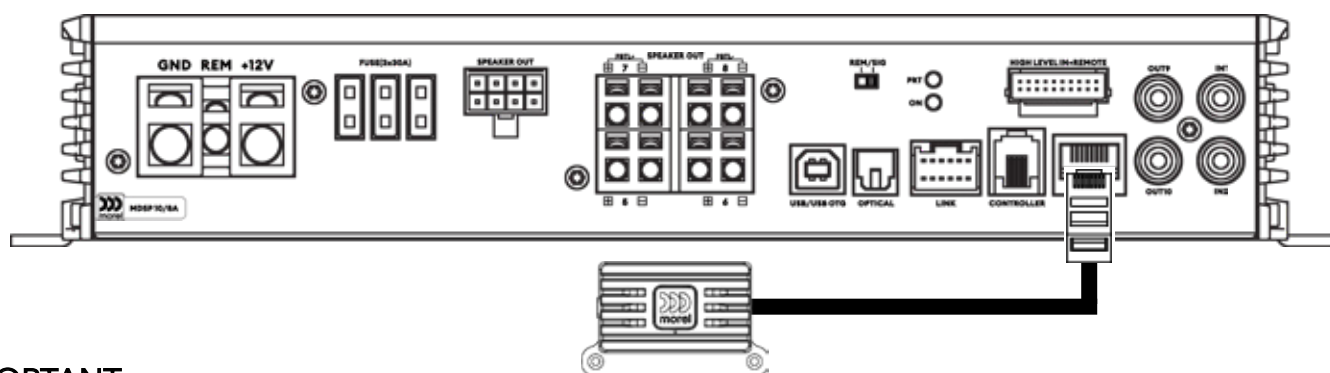
Bluetooth Input

MDSP10/8A, MDSP8/6A, and MDSP8/4A

The MDSP Amplifier supports high-quality wireless audio streaming via Bluetooth 5 with aptX HD, delivering near-CD sound performance. On compatible models, Bluetooth is enabled using an optional external Bluetooth dongle (sold separately) that connects directly to the amplifier. Once paired, the system will automatically switch to the Bluetooth input when audio playback begins, regardless of the currently active source.

Ways to select the Bluetooth Input:

- Auto Input Switching.
- DRC Controller - From a DRC controller.



IMPORTANT:

- Bluetooth module is an optional purchase and is needed to be able to stream audio to the MDSP amplifiers.

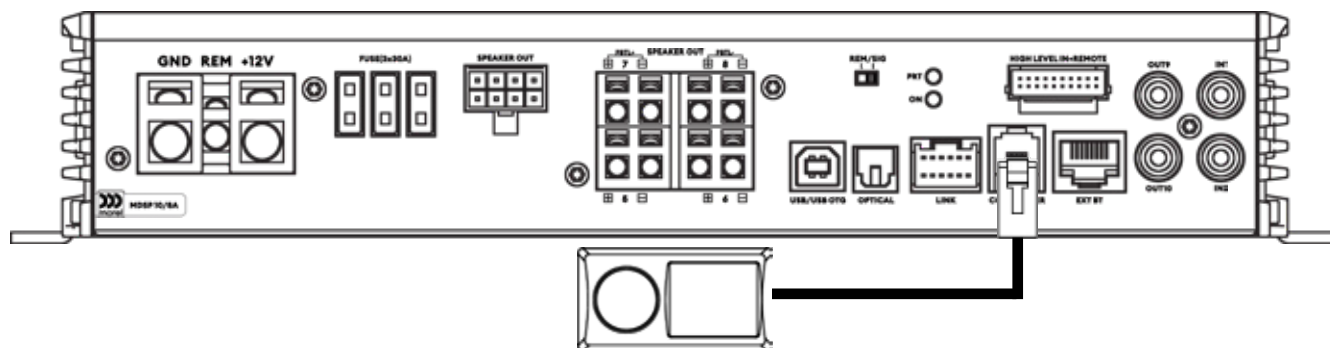
MDSP6/4A

Wireless audio streaming is supported via Bluetooth 5 with aptX HD, delivering near-CD quality performance. On the MDSP6/4A, Bluetooth is built in for pairing with smartphones, tablets, and other compatible devices. Once paired, initiating playback on a Bluetooth device will automatically switch the system from its current audio source to the Bluetooth input.

Adding Optional Remote Control (DRC)

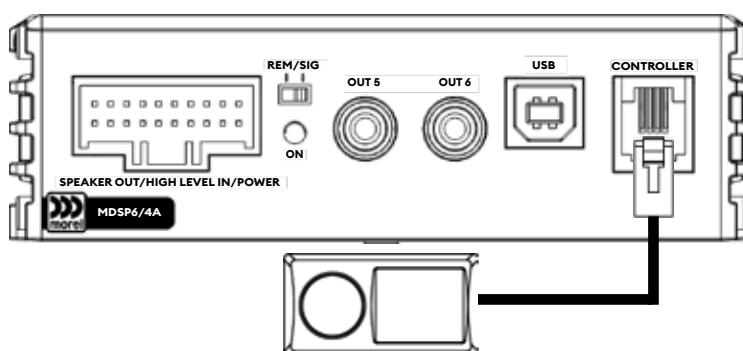
MDSP10/8A, MDSP8/6A, and MDSP8/4A

An optional accessory that provides full user control of the MDSP from the listening position. The DRC allows the user to adjust overall system volume, subwoofer level, source selection, and preset changes, as well as access additional system functions depending on the configuration. This enables quick, convenient adjustments without needing to reach the amplifier or connect to the tuning software, making it ideal for everyday use and fine-tuning during listening.



MDSP6/4A

An optional DRC (Digital Remote Control) accessory provides full user control of the MDSP from the listening position. It enables adjustment of overall system volume, subwoofer level, source selection, preset changes, and additional functions depending on system configuration. This allows quick and convenient control without accessing the amplifier or connecting to tuning software, making it well suited for both daily use and real-time listening adjustments.

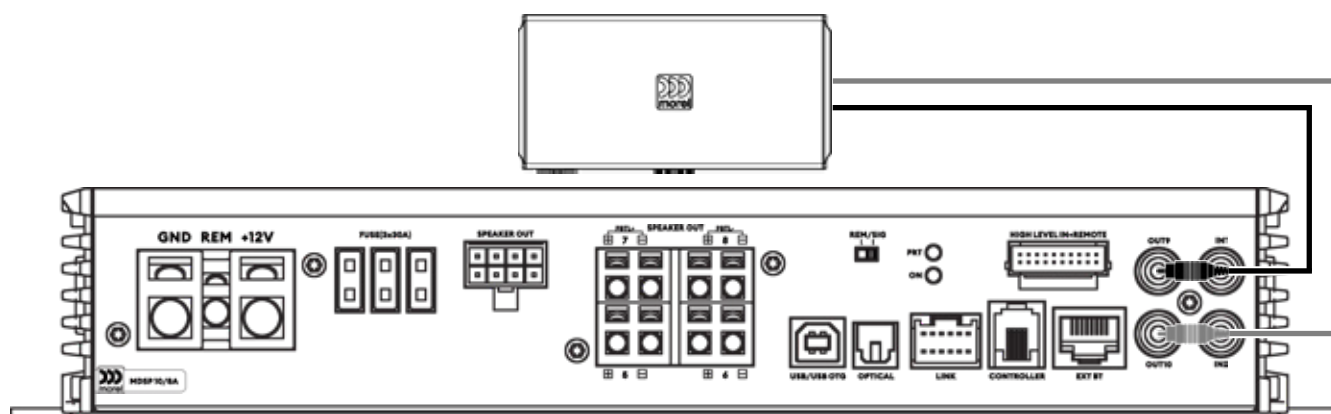




Signal for Optional Outboard Aftermarket Amplifier

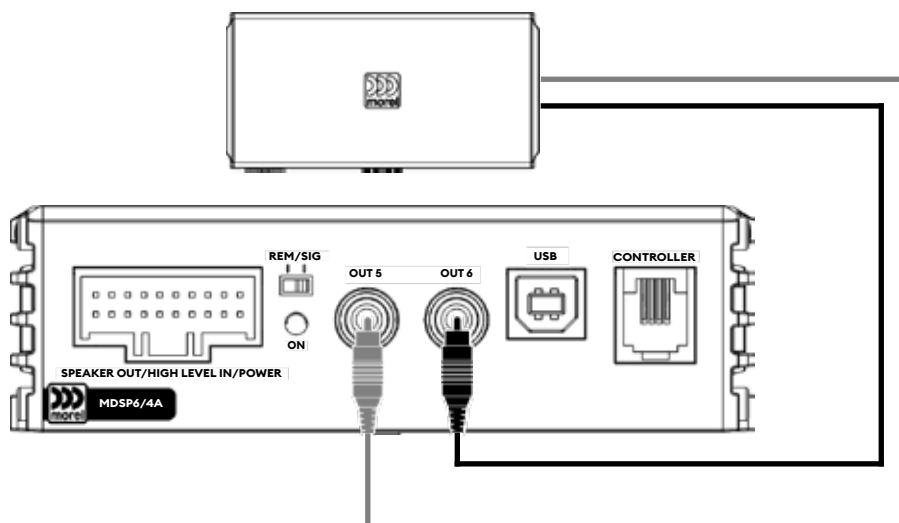
MDSP10/8A, MDSP8/6A, and MDSP8/4A

The MDSP includes up to four DSP-controlled low-level (RCA) outputs, enabling the connection of additional aftermarket amplifiers to expand system capability. These outputs are fully processed by the internal DSP, allowing precise tuning and integration of external amplification within the overall system configuration.



MDSP6/4A

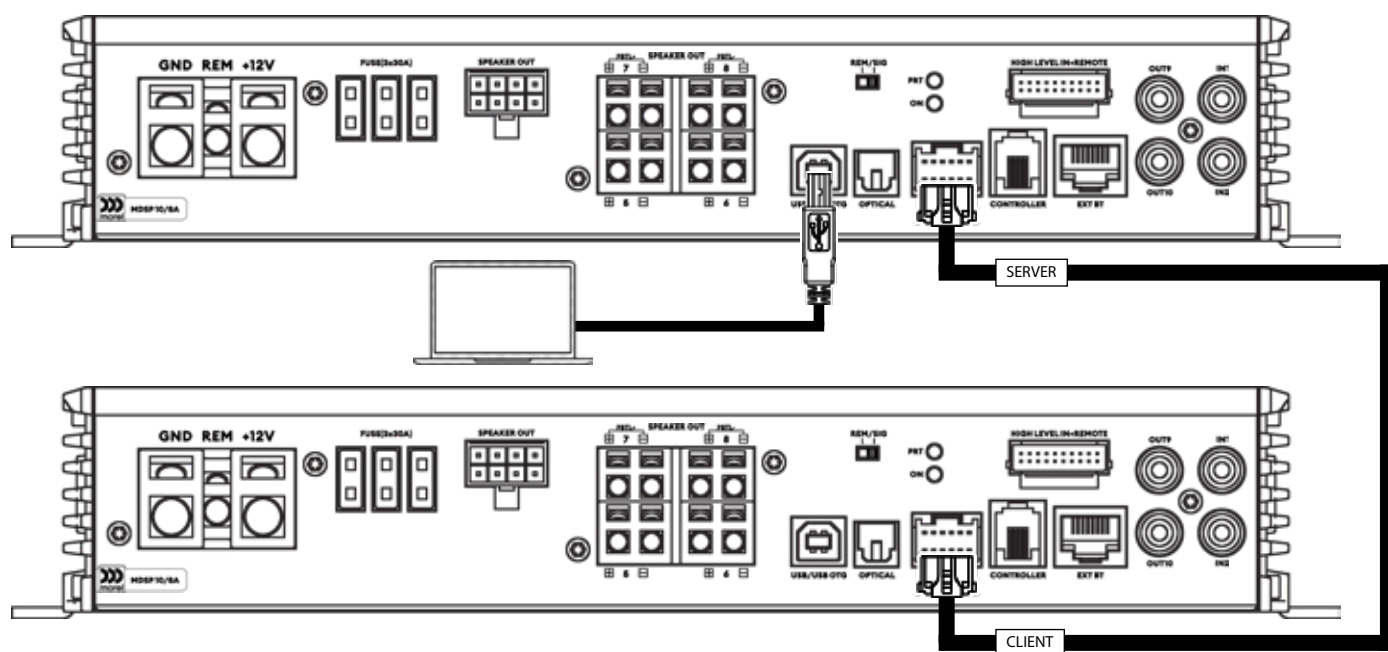
The MDSP6/4A provides two DSP-controlled low-level (RCA) outputs for expanding system capability through the addition of aftermarket amplifiers. Fully processed by the internal DSP, these outputs ensure precise signal control and allow seamless integration and tuning of external amplification within the overall system configuration.



Adding Additional MDSP Amp Via TuneLink

MDSP10/8A, MDSP8/6A, and MDSP8/4A

The MDSP Full Size amplifiers offer the unique ability to link two units together, allowing a single computer to tune both amplifiers simultaneously. When connected, the system operates as a unified platform where all digital input signals are shared between both amplifiers, including Optical, USB Audio, and Bluetooth. TuneLink also ensures cohesive system behavior by synchronizing source selection and preset changes across both units. This creates a fully integrated environment that streamlines setup, enhances workflow efficiency, and enables faster, system-wide tuning and control.



IMPORTANT:

- Only 2 amplifiers total can be connected via TuneLink.
- Additional amplifiers can be connected through the low-level (RCA) output if needed.
- The TuneLink cable is directional, ensure that the cable has the correct orientation or the second amplifier may not be recognized in the software.

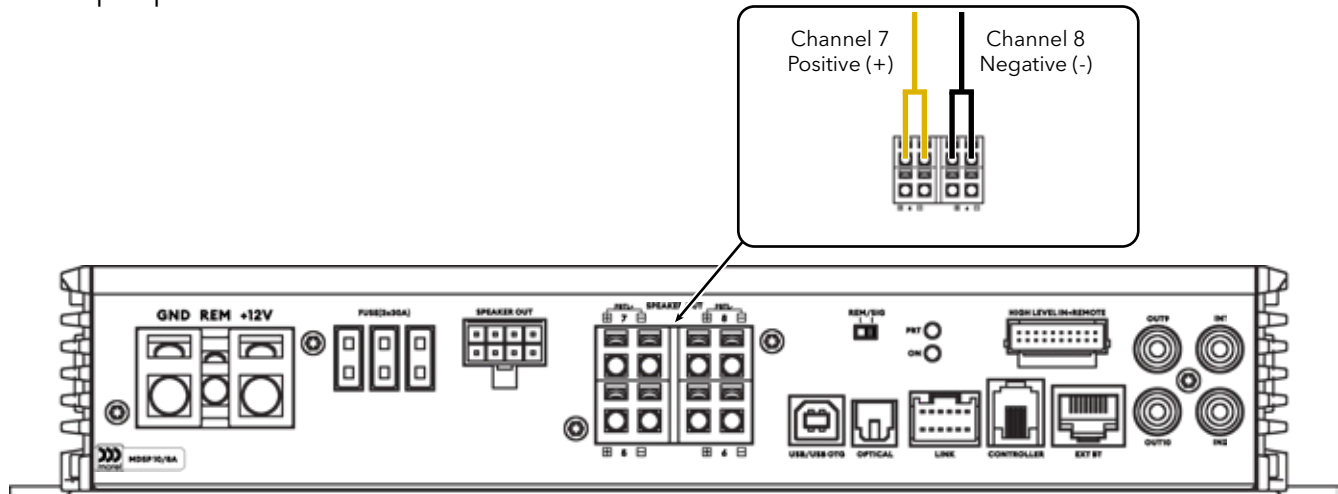
MDSP6/4A

Unlike other MDSP models, the MDSP6/4A does not offer TuneLink expansion support. As a result, it operates as a standalone system without the ability to add additional MDSP units for expanded input/output or system scaling.

Speaker Connections - Bridging Wiring

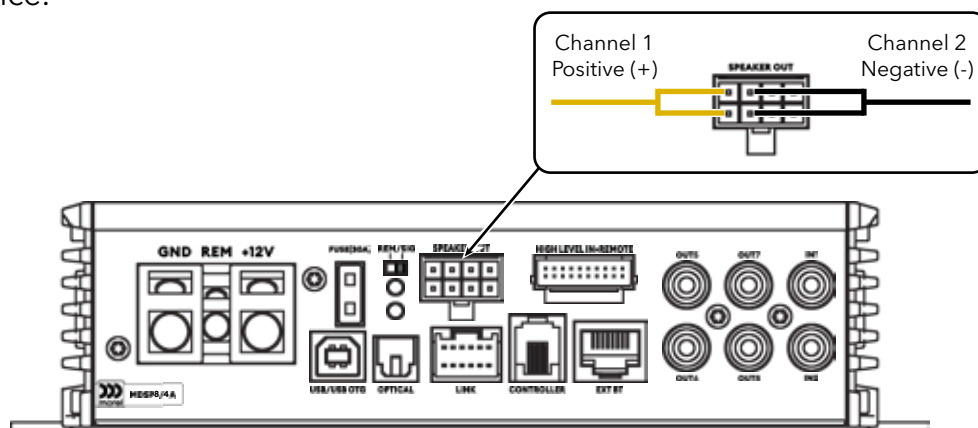
High Output Terminals (MDSP10/8A & MDSP8/6A)

The MDSP utilizes a specific bridging configuration known as PBTL mode. In this setup, odd-numbered channels function as the positive outputs and should be connected to the speaker's positive terminal, while even-numbered channels act as the negative outputs and connect to the speaker's negative terminal. After wiring is complete, PBTL mode must be enabled within the MDSP software. This setting configures the amplifier channels to operate correctly in bridged mode and ensures proper output performance.



Speaker Harness (MDSP8/4A)

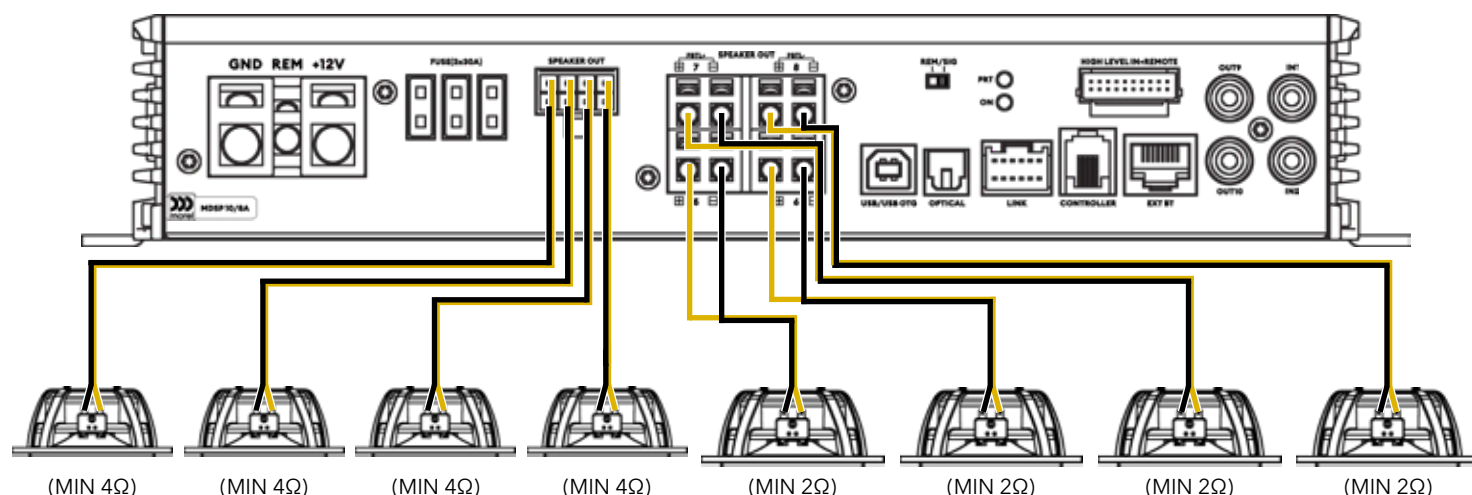
The MDSP supports bridged operation through its PBTL (Parallel Bridge-Tied Load) configuration. In this mode, odd-numbered channels provide the positive output connection, while even-numbered channels serve as the negative output, requiring corresponding connections to the speaker terminals. Once all wiring is completed, PBTL mode must be activated within the MDSP software. Enabling this function configures the amplifier channels for proper bridged operation and ensures optimal performance.



Speaker Connections - MDSP10/8A

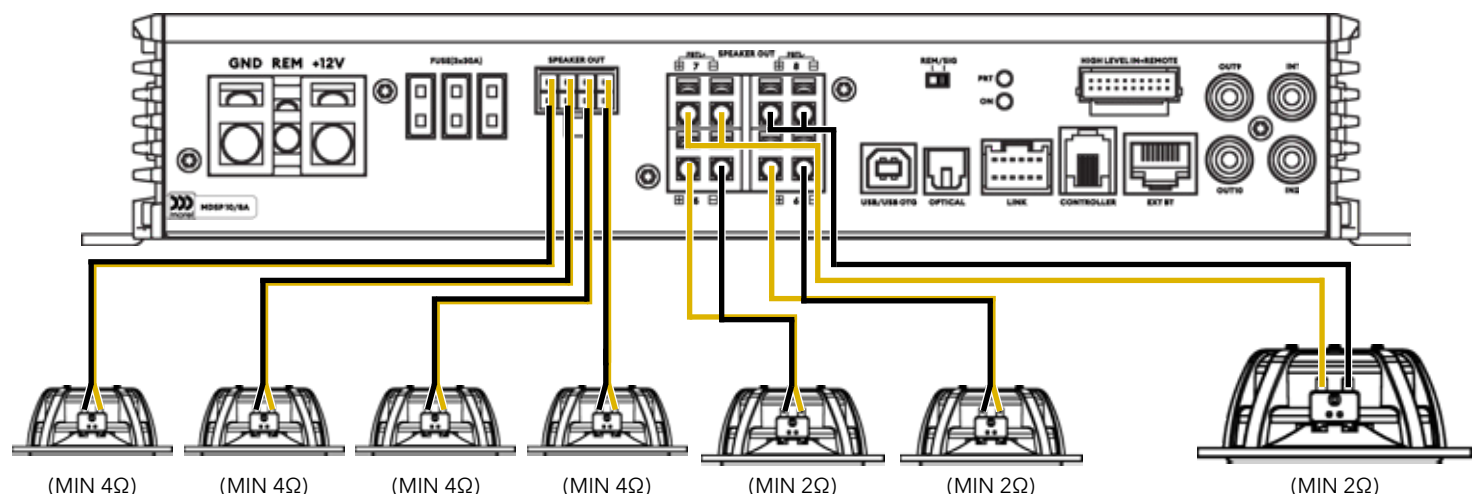
8 Channel System

The MDSP comes with an 8-pin cable that connects up to four channels of amplified speaker outputs, providing $80\text{ W} \times 4$ at 4Ω . The MDSP also has a speaker connection block for up to four high-power outputs, delivering up to $160\text{ W} \times 4$ at 4Ω .



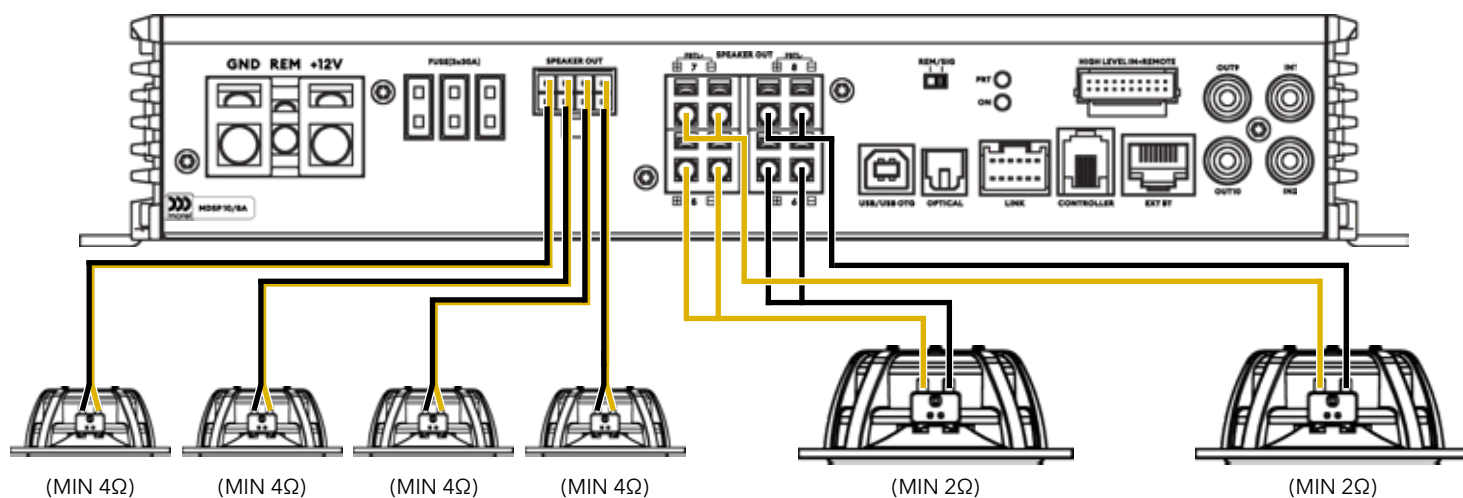
7 Channel System (Bridged Channels)

When configured for subwoofer use, the MDSP's high-power channels may be bridged to achieve output levels of up to 320 W RMS at 2Ω , providing strong low-frequency performance. Despite this bridged configuration, the system continues to offer four $80\text{ W} \times 4$ channels for the remaining speaker outputs, allowing flexible system design. Refer to the Bridging section of this manual for full wiring and setup instructions.



6 Channel System (Bridged Channels)

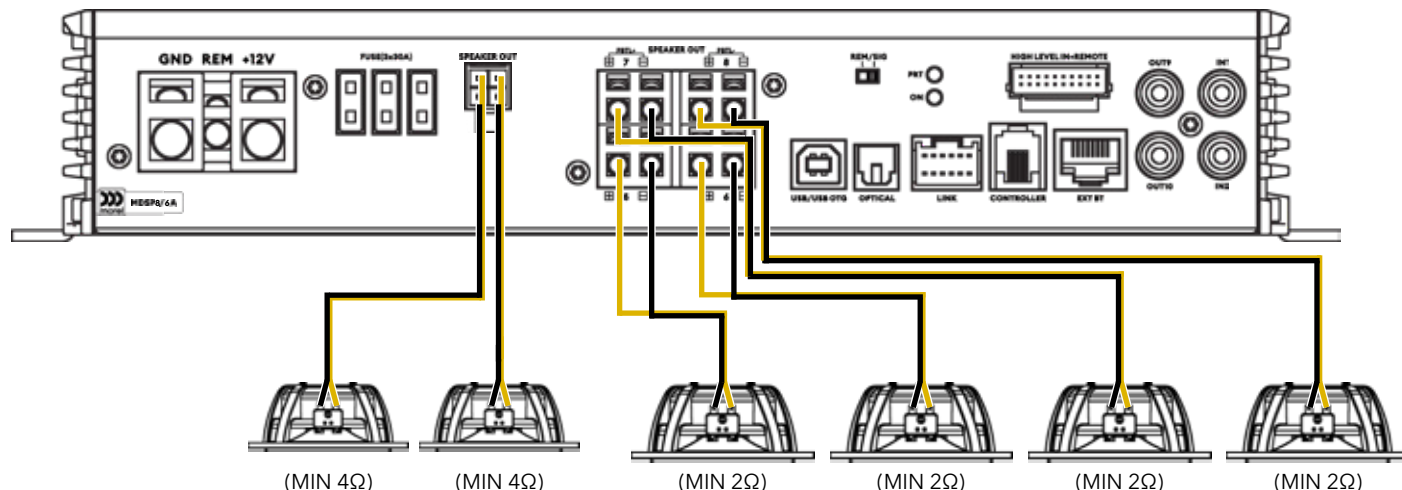
The MDSP's high-power amplifier channels can be bridged to deliver up to 320 W RMS at 2Ω , a configuration commonly used to drive subwoofers for enhanced low-frequency performance. When bridged, the four $80\text{ W} \times 4$ channels remain available for powering the rest of the system, providing flexible system design options. For detailed wiring and setup information, refer to the Bridging section.



Speaker Connections - MDSP8/6A

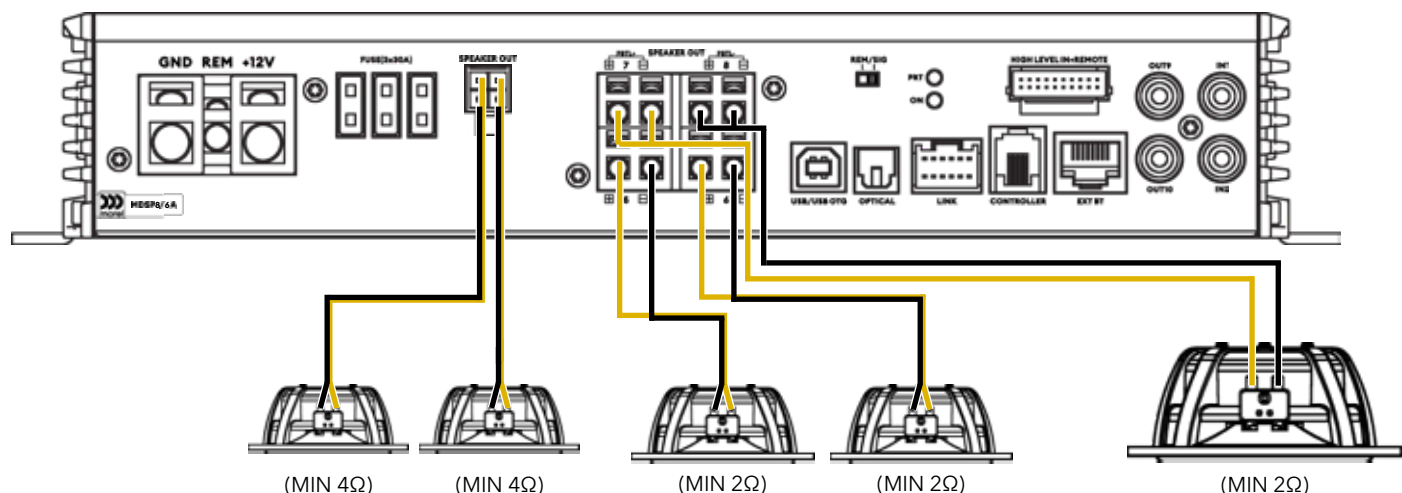
6 Channel System

Two separate output sections are used on the MDSP to accommodate different amplification needs. For compact system integration, a 4-pin harness provides up to two channels of amplified speaker output at $80\text{ W} \times 2$ into 4Ω loads. For higher-power applications, a dedicated speaker connection block is included, delivering up to four channels at $160\text{ W} \times 4$ into 4Ω .



5 Channel System (Bridged Channels)

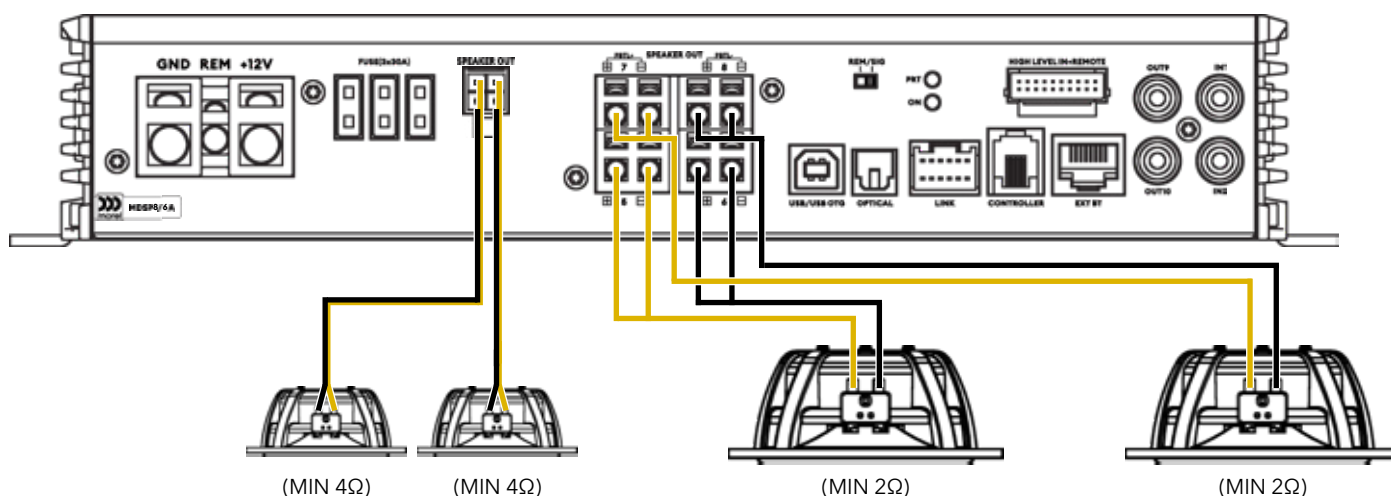
MDSP amplifiers offer flexible system power configuration. In bridged mode, the high-power channels are capable of delivering up to 320 W RMS at 2Ω , making them ideal for subwoofer applications and improved low-frequency output. Even in this configuration, four $80\text{ W} \times 2$ channels remain available to power the rest of the audio system. For complete wiring and setup details, please refer to the Bridging section of this manual.





4 Channel System (Bridged Channels)

When additional low-frequency output is required, the MDSP's high-power amplifier channels can be configured in bridged mode to deliver up to 320 W RMS at 2Ω , making them well suited for sub-woofer applications and enhanced bass performance. Even in this configuration, four $80\text{ W} \times 2$ channels remain available for the rest of the system, maintaining full flexibility for speaker assignment. For detailed wiring and setup instructions, refer to the Bridging section.

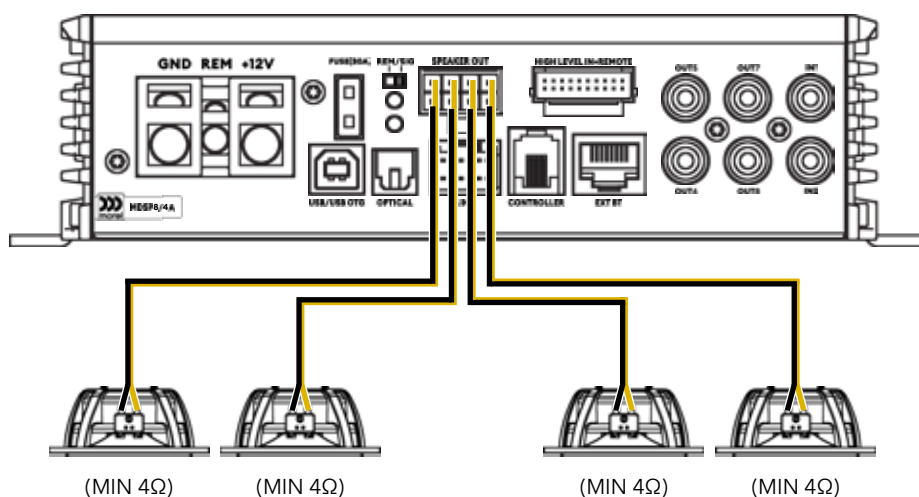




Speaker Connections - MDSP8/4A

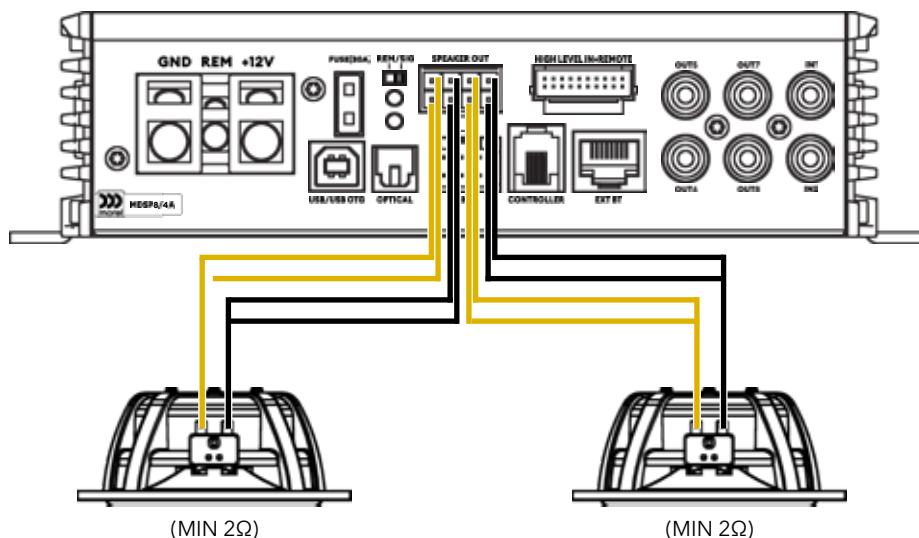
4 Channel System

The MDSP includes an 8-pin harness designed to interface with up to four amplified speaker outputs. This connection supports system configurations delivering up to $80\text{ W} \times 4$ at 4Ω , providing a clean and efficient signal path for multi-channel speaker integration.



2 Channel System (Bridged Channels)

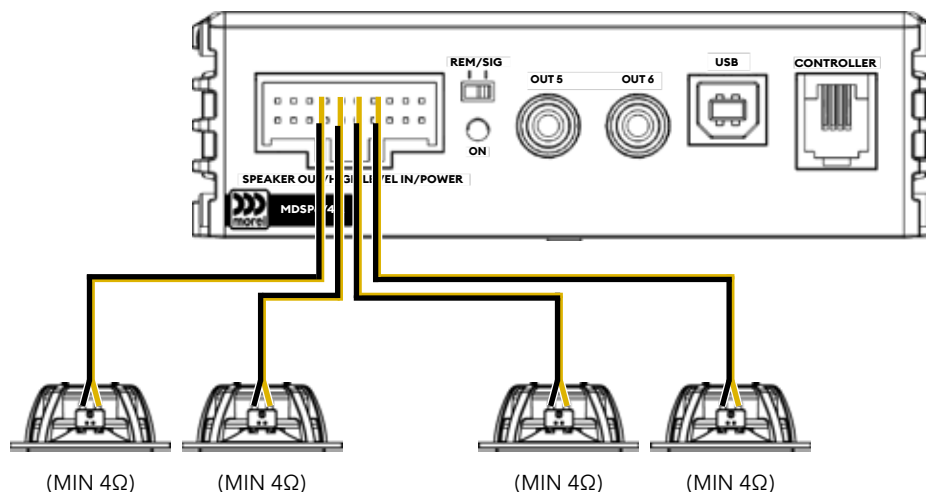
When greater output is required, the MDSP's amplified channels can be configured in bridged mode, delivering up to 160 W RMS at 2Ω for use with larger speaker applications. Full wiring and setup details can be found in the Bridging section of this manual.



Speaker Connections - MDSP6/4A

4 Channel System

The MDSP6/4A includes a 20-pin harness designed to interface with up to four Class AB amplified speaker outputs. This connection provides 25 W RMS $\times$ 4 at 4 Ω , offering a clean and efficient multi-channel amplification path for system integration. The design ensures reliable signal delivery and straightforward connectivity within a wide range of audio system configurations.



Connection to PC and Software

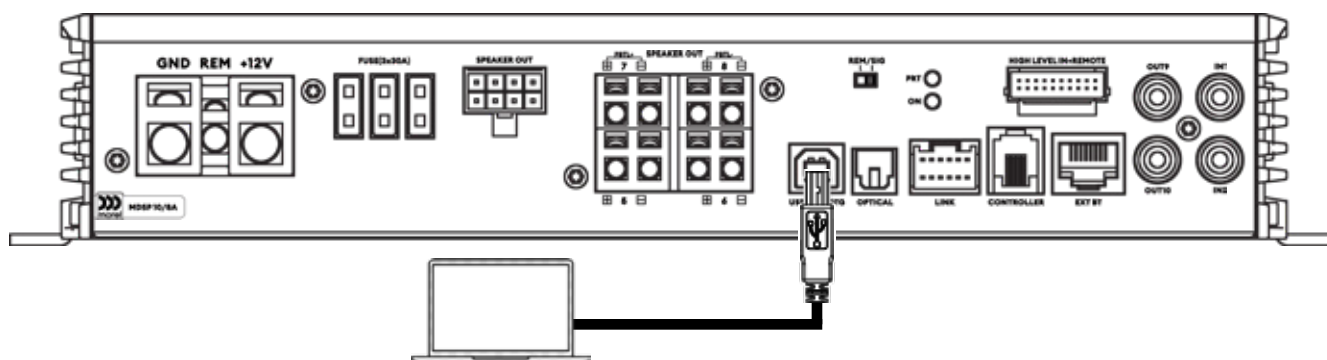
The MDSP amplifier can be customized with the Morel DSP Software, giving you full control over each of its 10 DSP channels. The software is intuitive and designed to make tuning your system straightforward.

Before You Begin

- Download and install the latest version of Morel DSP Software from www.morelhifi.com
- Regularly check the website for software and firmware updates to ensure your MDSP runs with the latest features and improvements.
- Read the knowledge base for helpful tips and best practices.
- **Important:** Do not connect the amplifier to your computer until the software and USB driver are fully installed.

Connecting Your MDSP

1. Launch the Morel DSP Software on your computer.
2. Connect the MDSP amplifier using the USB cable included in the package.
3. Power on the amplifier. The software will detect it automatically.



Configuring Your System

- Once connected, you can adjust each DSP channel to your preference.
- Explore the knowledge base for suggested settings and guidance.

Safety Notes

- Keep the car radio volume at minimum during initial setup.
- Avoid connecting any devices to the Line Out until your general settings are configured.
- Incorrect setup, especially in fully active systems, can damage your speakers.

Troubleshooting

Symptom		Possible Cause	Remedy
1.	Amplifier not turning on.	Fuse on main power wire or fuses on the MDSP amplifier have blown.	Replace the failed fuse(s). Failing fuses can indicate that the power and ground are reversed and the install needs to be investigated.
		Wrong turn on option is selected.	Connect a switched +12v to the REM IN of the power block and select REM on Remote On / Signal Sense Selector Switch.
		Speaker Sense is not seeing a proper signal.	Connect channels 1 & 2 of the High-Level Input Harness to speaker outputs of the OEM audio system.
2.	Power LED is on, but no sound out of the amplifier.	Master Volume is turned down.	On the DRC, in the App, or in the Morel DSP Software, turn up the Master Volume until at desired output. Warning: It is suggested to turn down the source unit to a comfortable level before adjusting Master volume to in case output is set to loud.
		All channels muted.	In the Morel DSP Software, unmute the individual channels or unmute the Master Volume Control.
		The correct source is not selected.	Change the source in the DRC, the Bluetooth App, or in the Morel DSP Software.
		Mixer settings are incorrect.	Make sure that the proper source is being sent to the proper output. If settings are for High-Level and using Low-Level, output will never be able to happen.
		Amplifier is in protect.	Check for illuminated PROTECT light on amplifier. Power cycle the amplifier. If sound continues to shut off, an impedance check should be done on the connected speakers to ensure no shorts are present. Wrong turn on option is selected.
3.	Not getting full-range sound.	Crossovers are not applied correctly.	Make sure that the high-pass and low-pass are not reversed in the settings.
		OEM audio system has crossovers applied to the input signal or the amplifier	The output channels should be verified using an RTA to confirm the frequency response being reproduced.
			If the outputs are crossed over, they must be combined with other channels to achieve a full-range signal. Check the MDSP outputs to determine which channels require additional mixing.



Symptom		Possible Cause	Remedy
4.	Power LED stays on after vehicle turns off.	The MDSP stays on after REM IN or Accessory is turned off.	A delay on turn off is normal. This ensures all components of the system are powered down in the proper order. This turn off delay time can be altered through the Morel DSP Software. If this time was set by an installation shop, the time should likely not be changed or issues may arise.
5.	Distortion of sound in playback.	EQ bands are too high.	Go into the Home, Input, and Global pages to validate no EQ bands are boosted too high. EQ bands should be cut in practice and only boosted if needed and enough headroom is left in the amplifier. Verifying proper headroom can be checked with the CLIPPING INDICATOR on each channel to ensure no harmful signal are present.
6.	Engine whine or engine speed dependent noise is present	RCAs are run next to the main power wire	Isolate the RCAs by moving them to the opposite side of the vehicle or as far away from the power wire as possible (more than 2 feet).
		There is a ground loop issue.	The ground may not have good contact with the chassis of the vehicle. Clean any paint or intrusion between the contact of the ground wire (ring terminal) and the actual metal of the vehicle.
			A ground reference wire needs to be run to connect the ground of the source unit to the amplifier.
			The ground is physically loose. Tighten and check audio.

Specifications - MDSP10/8A

AMPLIFIER

Dynamic Range	≥100dB
S/N (RCA)	≥98dB
T.H.D.	≤0.03%
Frequency Response	20Hz ~ 20kHz
Input Sensitivity	16V / 30V RMS (High-Level) 0.1 - 2V RMS (Low-Level)
Input Impedance	High-Level: 4.7Ω RCA: 10kΩ
Output Impedance (RCA)	51Ω
Load Impedance (RCA)	CH1~CH4: 4Ω CH5~CH8: 2Ω
Output Power @ 4Ω	CH1~CH4: 80W (RMS) / 160W (PEAK) CH5~CH8: 160W (RMS) / 320W (PEAK)
Output Power @ 2Ω	CH1~CH4: N/A CH5~CH8: 160W (RMS) / 320W (PEAK)
Bridged Output @ 2Ω (PBTL)	CH5~CH8: 2x320W (RMS) / 2x640W (PEAK)

POWER SUPPLY

Voltage (DC)	9~17V
Idle Current	≤0.1W
REM Input	High-Level Start (H1+/H1-) or ACC Start is Optional
REM Output	12V (200mA)
Outboard Fuse (Mini ATC)	30A x 3

OUTPUT

Signal Output (RCA)	2V (RMS)
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PROCESSOR

System Sampling Rate	96kHz/24bit
Crossover	Full / High-Pass / Low-Pass / Band-Pass
Crossover Type	Bessel / Butterworth / Linkwitz-Riley
Crossover Slope	6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
Crossover Frequency	20Hz~20kHz @ 1Hz Step
Polarity Inversion	0°/180°
Output Equalizer	10-Band Parametric Equalizer $\pm$ 12dB per Channel 10-Band Parametric Equalizer $\pm$ 12dB Global
Output Equalizer Q Value	0.404 - 28.852
Output Equalizer Resolution	0.1dB per Step
All-Pass Filtering	Input (Per Channel); Output (Per Channel)
Delay Distance	0 - 692 cm; 0 - 273 inch
Delay	0 - 20 ms
Delay Step	0.01 ms
Presets	6

COMPUTER REQUIREMENTS

Operating System	Microsoft Windows (32 / 64 bit) XP, Vista, Windows 7, Windows 8, Windows 10
Graphics (Min)	1024 x 768
PC Connection	USB B (2.0+)

SIZE

Net Weight (kg)	0.41
Dimensions	275mm x 136mm x 50mm

Specifications - MDSP8/6A

AMPLIFIER

Dynamic Range	≥100dB
S/N (RCA)	≥98dB
T.H.D.	≤0.03%
Frequency Response	20Hz ~ 20kHz
Input Sensitivity	16V / 30V RMS (High-Level) 0.1 - 2V RMS (Low-Level)
Input Impedance	High-Level: 4.7Ω RCA: 10kΩ
Output Impedance (RCA)	51Ω
Load Impedance (RCA)	CH1~CH4: 4Ω CH5~CH8: 2Ω
Output Power @ 4Ω	CH1~CH2: 80W (RMS) / 160W (PEAK) CH3~CH6: 160W (RMS) / 320W (PEAK)
Output Power @ 2Ω	CH1~CH2: N/A CH3~CH6: 160W (RMS) / 320W (PEAK)
Bridged Output @ 2Ω (PBTL)	CH3~CH6: 2x320W (RMS) / 2x640W (PEAK)

POWER SUPPLY

Voltage (DC)	9~17V
Idle Current	≤0.1W
REM Input	High-Level Start (H1+/H1-) or ACC Start is Optional
REM Output	12V (200mA)
Outboard Fuse (Mini ATC)	30A x 3

OUTPUT

Signal Output (RCA)	2V (RMS)
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PROCESSOR

System Sampling Rate	96kHz/24bit
Crossover	Full / High-Pass / Low-Pass / Band-Pass
Crossover Type	Bessel / Butterworth / Linkwitz-Riley
Crossover Slope	6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
Crossover Frequency	20Hz~20kHz @ 1Hz Step
Polarity Inversion	0°/180°
Output Equalizer	10-Band Parametric Equalizer $\pm$ 12dB per Channel 10-Band Parametric Equalizer $\pm$ 12dB Global
Output Equalizer Q Value	0.404 - 28.852
Output Equalizer Resolution	0.1dB per Step
All-Pass Filtering	Input (Per Channel); Output (Per Channel)
Delay Distance	0 - 692 cm; 0 - 273 inch
Delay	0 - 20 ms
Delay Step	0.01 ms
Presets	6

COMPUTER REQUIREMENTS

Operating System	Microsoft Windows (32 / 64 bit) XP, Vista, Windows 7, Windows 8, Windows 10
Graphics (Min)	1024 x 768
PC Connection	USB B (2.0+)

SIZE

Net Weight (kg)	0.41
Dimensions	275mm x 136mm x 50mm

Specifications - MDSP8/4A

AMPLIFIER

Dynamic Range	≥100dB
S/N (RCA)	≥98dB
T.H.D.	≤0.03%
Frequency Response	20Hz ~ 20kHz
Input Sensitivity	16V / 30V RMS (High-Level) 0.1 - 2V RMS (Low-Level)
Input Impedance	High-Level: 4.7Ω RCA: 10kΩ
Output Impedance (RCA)	51Ω
Load Impedance (MIN)	CH1~CH4: 2Ω
Output Power @ 4Ω	CH1~CH4: 80W (RMS) / 160W (PEAK)
Output Power @ 2Ω	CH1~CH4: 80W (RMS) / 160W (PEAK)
Bridged Output @ 2Ω (PBTL)	CH1~CH4: 2x160W (RMS) / 2x320W (PEAK)

POWER SUPPLY

Voltage (DC)	9~17V
Idle Current	≤0.1W
REM Input	High-Level Start (H1+/H1-) or ACC Start is Optional
REM Output	12V (200mA)
Outboard Fuse (Mini ATC)	30A x 1

OUTPUT

Signal Output (RCA)	2V (RMS)
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PROCESSOR

System Sampling Rate	96kHz/24bit
Crossover	Full / High-Pass / Low-Pass / Band-Pass
Crossover Type	Bessel / Butterworth / Linkwitz-Riley
Crossover Slope	6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
Crossover Frequency	20Hz~20kHz @ 1Hz Step
Polarity Inversion	0°/180°
Output Equalizer	10-Band Parametric Equalizer ± 12dB per Channel 10-Band Parametric Equalizer ± 12dB Global
Output Equalizer Q Value	0.404 - 28.852
Output Equalizer Resolution	0.1dB per Step
All-Pass Filtering	Input (Per Channel); Output (Per Channel)
Delay Distance	0 - 692 cm; 0 - 273 inch
Delay	0 - 20 ms
Delay Step	0.01 ms
Presets	6

COMPUTER REQUIREMENTS

Operating System	Microsoft Windows (32 / 64 bit) XP, Vista, Windows 7, Windows 8, Windows 10
Graphics (Min)	1024 x 768
PC Connection	USB B (2.0+)

SIZE

Net Weight (kg)	0.41
Dimensions	180mm x 136mm x 50mm

Specifications - MDSP6/4A

AMPLIFIER

Dynamic Range	≥100dB
S/N (RCA)	≥96dB
T.H.D.	≤0.03%
Frequency Response	20Hz ~ 20kHz
Input Sensitivity	5 - 9.9 V RMS (High-Level)
Input Impedance	4.7Ω (High-Level)
Output Impedance (RCA)	51Ω
Output Power @ 4Ω	CH1~CH4: 19W (RMS @ 1% THD)

POWER SUPPLY

Voltage (DC)	9~17V
Idle Current	≤0.1W
REM Input	High-Level Start (H1+/H1-) or ACC Start is Optional
REM Output	12V (200mA)
Outboard Fuse (Mini ATC)	15A

OUTPUT

Signal Output (RCA)	2V (RMS)
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PROCESSOR

System Sampling Rate	96kHz/24bit
Crossover	Full / High-Pass / Low-Pass / Band-Pass
Crossover Type	Bessel / Butterworth / Linkwitz-Riley
Crossover Slope	6 / 12 / 18 / 24 / 30 / 36 / 42 / 48 dB
Crossover Frequency	20Hz~20kHz @ 1Hz Step
Polarity Inversion	0°/180°
Output Equalizer	31-Band Parametric Equalizer $\pm$ 12dB per Channel
Output Equalizer Q Value	0.404 - 28.852
Output Equalizer Resolution	0.1dB per Step
Delay Distance	0 - 692 cm; 0 - 273 inch
Delay	0 - 20 ms
Delay Step	0.01 ms
Presets	6

COMPUTER REQUIREMENTS

Operating System	Microsoft Windows (32 / 64 bit) XP, Vista, Windows 7, Windows 8, Windows 10
Graphics (Min)	1024 x 768
PC Connection	USB B (2.0+)

SIZE

Net Weight (kg)	0.41
Dimensions	116mm x 90mm x 35mm

Wishing you many years of sound enjoyment!



Morel, Ness Ziona, 70400 Israel.
Tel: +972-8-9301161
Fax: +972-8-9301312
E-mail: info@morelhifi.com

Morel America, Chandler, AZ, USA
Toll free number: 1-877-667-3511
Fax: 1-718-721-1560
E-mail: info@morelamerica.com

www.morelhifi.com