

CARVER



USER'S GUIDE

MA202R

Stereo Multi-Purpose Amplifier

www.carver-usa.com

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Important Safety Instructions!

1. READ these instructions.
2. KEEP these instructions.
3. HEED all warnings.
4. FOLLOW all instructions.
5. DO NOT use this apparatus near water.
6. CLEAN ONLY with dry cloth.
7. DO NOT block any ventilation openings. Install in accordance with the manufacturer's instructions.
8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. DO NOT defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wider blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. PROTECT the power cord from being walked on or pinched, particularly at plugs, convenience receptacles, and the point where they exit from the apparatus.
11. ONLY USE attachments/accessories specified by the manufacturer.
12. USE only with a cart, stand, tripod, bracket, or table specified by the manufacturer, or sold with the apparatus. When a cart is used, use caution when moving the cart/apparatus combination to avoid injury from tip-over.
13. UNPLUG this apparatus during lightning storms or when unused for long periods of time.
14. REFER all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or the been dropped.
15. DO NOT expose this apparatus to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the apparatus.
16. To completely disconnect this apparatus from the AC Mains, disconnect the power supply cord plug from the AC receptacle.
17. The mains plug of the power supply cord shall remain readily operable.



 Protective earthing terminal. The apparatus should be connected to a mains socket outlet with a protective earthing connection. Voltage selector: Used to adjust the input rating (120 Vac/60 Hz and 230 Vac/50 Hz), please just insert the mains power plug into the socket-outlet with voltage within the setting of the selector. The current ratings of mains fuse links are different for different input ratings (see marking for details), and the fitted mains fuse link was just related to the input rating as setting of the selector during factory assembly line work, please ask a qualified personnel to help you replace the mains fuse link before you adjust the voltage selector.



The exclamation point, within an equilateral triangle, is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.



The lightning flash with arrowhead symbol within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.

	CAUTION RISK OF ELECTRIC SHOCK. DO NOT OPEN.	
WARNING: Do Not Open! Risk of Electrical Shock. Voltages in this equipment are hazardous to life. No user-serviceable parts inside. Refer all servicing to qualified service personnel.		

WARNING: To reduce the risk of fire or electrical shock, do not expose this apparatus to rain or moisture.

WARNING: No naked flame sources-such as candles-should be placed on the product.

Place the equipment near a main power supply outlet and make sure that you can easily access the power breaker switch.

WARNING: This product is intended to be operated ONLY from the AC Voltages listed on the back panel or included power supply of the product, Operation from other voltages other than those indicated may cause irreversible damage to the product and void the products warranty. The use of AC Plug Adapters is cautioned because it can allow the product to be plugged into voltages in which the product was not designed to operate. If the product is equipped with a detachable power cord, use only the type provided with your product or by your local distributor and or retailer. If you are unsure of the correct operational voltage, please contact your local distributor and/or retailer.

EU COMPLIANCE INFORMATION:

Eligible to bear the CE mark, Conforms to European Union Low Voltage Directive 2006/95/EC; Conforms to European Union EMC Directive 2004/108/EC, Conforms to Eco- Design Directive 2009/125/EC, Conforms to REACH Directive 2006/121/EC.

WEEE NOTICE

Note: This mark applies only to countries within the European Union (EU) and Norway



This appliance is labeled in accordance with European Directive 2002/96/EC concerning waste electrical and electronic equipment (WEEE). This label indicates that this product should not be disposed of with household waste. It should be deposited at an appropriate facility to enable recovery and recycling.

FCC AND CANADA EMC COMPLIANCE INFORMATION:

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Approved under the verification provision of FCC Part 15 as a Class B Digital Device.

Caution: Changes or modifications not expressly approved by the manufacturer could void the user's authority to operate this device.

Caution: To comply with the limits of the Class B digital device, pursuant to Part 15 of the FCC Rules, this device is to comply with Class B limits. All peripherals must be shielded and grounded. Operation with non-certified peripherals or non-shielded cables may result in interference to radio or reception.

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

FCC STATEMENT

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

FCC Radiation Exposure Statement

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

IC warning

This device complies with Industry Canada licence exempt RSS standard(s).
Operation is subject to the following two conditions:

(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

2. Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est auto-risquée aux deux conditions suivantes :

(1) l'appareil ne doit pas produire de brouillage, et
(2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement."

THANK YOU FOR YOUR PURCHASE OF THE CARVER MA202R

All Carver products are designed using the highest quality components and cutting edge technology providing years of enjoyment from your Carver product.

The MA202R is easy to operate and integrate into your system. This owner's reference manual contains important information on the placement, installation, and operation of the MA202R. Please read this information carefully. A thorough understanding of these details will help ensure satisfactory operation and long life for your MA202R and related system components.

Unpacking:

Your MA202R includes the amplifier, Bluetooth antenna, power cord and operation manual. If your MA202R is missing any components listed please contact Carver at www.carver-usa.com.

Placement:

Always place your MA202R in a well-ventilated area. Never place the amplifier close to or on top of a heat source like another amplifier or component that produces heat. Always leave at least 3 inches clearance on top of the amplifier and never block the vent holes on top of the chassis. The MA202R can be placed on a rack shelf side by side with other MA202R units to complete your system however you must leave space above the amplifier for ventilation. Place your MA202R away from any sources of moisture or liquids. Never use this amplifier outdoors where rain or moisture is present.

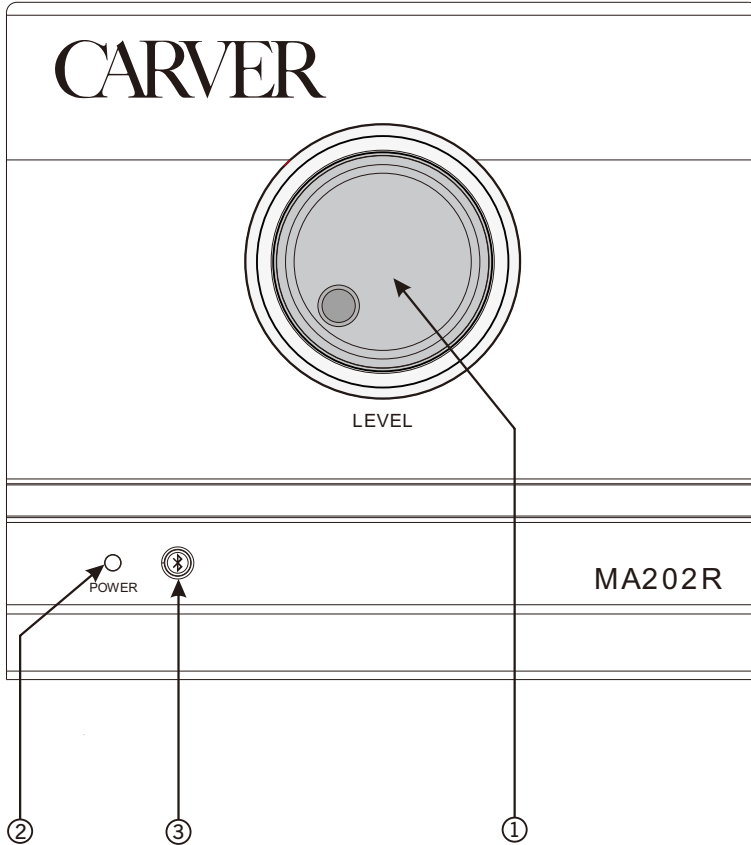
Important Note:

When using the on-board Bluetooth feature included in your MA202R it's best to keep the Bluetooth antenna line-of-sight to the Bluetooth transmitter you are using. Smartphones should be within 25 feet of the MA202R for best results when using Bluetooth. Positioning the amplifier in a concealed location can limit the range of the Bluetooth reception. If your Bluetooth reception is weak, move the amplifier to a more central location.

SPECIFICATIONS

Rated Power Output	2 x 100 Watts (Stereo) into 4 ohm Load 200 Watts (BTL) into 8 ohm Load
Total Harmonic Distortion (THD)	<0.1%
Signal-to-Noise Ratio	>100dB
Crossover Freq. Response (-3dB):	@ Min position 18.5-55.2Hz 40Hz/0dB @ Max position 18.2-168.8Hz 40Hz/0dB
Auto Turn On Sensitivity	5mV +/-2mV Full Range 1KHz 5mV +/-2mV Input 50 Hz
Delay "OFF" Time	4 minutes
Line Out Freq. Response (-3dB)	20Hz +/-5K - 20 KHz +/-5K 1KHz/0dB
Input Impedance Line In	9.2K ohm +/-5%
Max. noise+hum Vol Max	<1.0mV, Input Shorted
Power Requirement	110 - 120V 60Hz or 220 - 240V 50Hz
Weight	12 lbs 11oz (5.6 kg)
Shipping Weight	14.5 lbs 6 oz (6.8 kg)
Dimensions:	
Width	7 1/2" (196 mm)
Height	7 4/5" (188 mm)
Depth	15 1/5" (387 mm)
Clearance for ventilation	
Top	Minimum 3/8" / 10 mm
Back	Minimum 2" / 50 mm

FRONT PANEL LAYOUT



① MASTER VOLUME:

Turn the master volume control clockwise to increase the volume level and counter clockwise to decrease the volume level.

② POWER ON/POWER STANDBY:

The power LED will light green when the back panel power switch is switched ON and the power LED will light red when the MA202R is in standby mode. Standby mode is a power saving feature that keeps the MA202R ready for use while conserving energy when the unit is not in use. The status of the power LED depends on the back panel Auto/On power mode setting. Read more on this feature later in the Power Mode Switch section of the manual.

ⓈBLUETOOTH:

The MA202R is equipped with an on-board Bluetooth receiver/player which converts the unit into a wireless receiver/amplifier. This feature provides wireless connection from any Bluetooth enabled device like smartphones, computers and MP3 devices with Bluetooth capability. Wireless connection to the MA202R is simple and can be completed by following these steps.

- Press the MA202R back panel main power switch ON.
- Power ON your smartphone or Bluetooth enabled device.
- Make sure that Bluetooth is enabled on your smartphone or Bluetooth device.
- The MA202R will automatically search for Bluetooth devices for connection.

CARVER MA202R will appear in your list of devices automatically.

Press the PAIR feature on your smartphone or Bluetooth device.

Once a successful connection is established your smartphone or Bluetooth device will show “connected” and the Bluetooth button on the front panel of the MA202R will light.

Now play music from your smartphone or Bluetooth device.

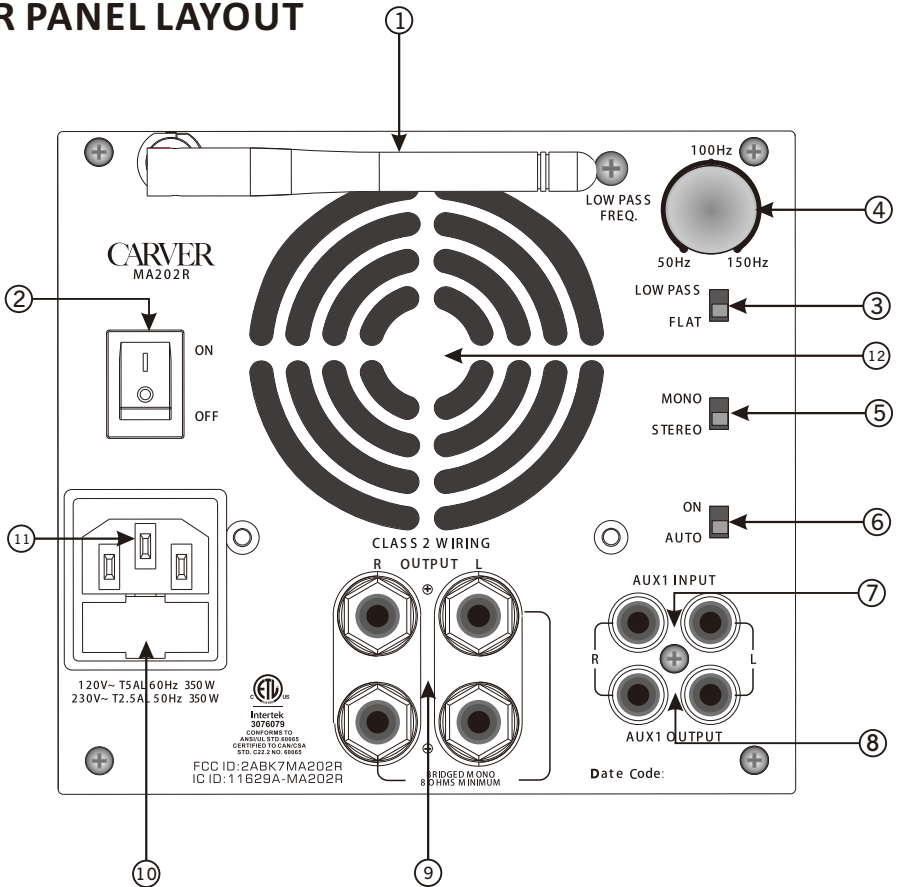
NOTE:

If another source is connected to the back panel RCA input jacks both the Bluetooth signal and the RCA input will play simultaneously. When using Bluetooth always turn the source connected to the RCA inputs OFF to avoid mixing both the Bluetooth and RCA sources together.

Only one Bluetooth device can be paired to MA202R at a time.

To connect another device to the MA202R un-pair the currently connected device and repeat the pairing procedure listed above.

REAR PANEL LAYOUT



① BLUETOOTH ANTENNA:

Position the Bluetooth antenna in an upright position and keep a clear line of sight to the area where Bluetooth transmitting devices will be used.

② POWER ON/OFF:

The MA202R can be powered ON continuously using the back panel power switch. The MA202R provides a power saving standby mode which keeps the amplifier in a low power “sleep” state when no input signal is present for more than 4 minutes. The front panel power LED will glow RED in standby mode and GREEN in normal mode. When the power switch is turned ON initially the power LED will glow green. If the MA202R will not be in use for long periods of time always switch the back panel power switch OFF.

③ FLAT / LOW PASS SWITCH:

Keep the switch in the FLAT position for normal stereo operation. The FLAT position will broadcast all input signals without equalization or coloration. This is the normal operating mode of the MA202R. The LOW PASS switch will engage the internal low pass filters and the LOW PASS FREQ dial will activate. LOW PASS is a filter that will remove all frequencies above the setting

of the LOW PASS FREQ dial and pass all frequencies below the setting of the LOW PASS FREQ dial. The LOW PASS switch and dial are used when the MA202R is configured as a subwoofer amplifier. Subwoofers typically reproduce frequencies between 40Hz and 180Hz. It is not desirable for subwoofers to reproduce frequencies above 180Hz because subwoofers are specially design to reproduce bass frequencies.

④ **LOW PASS FREQ DIAL:**

The LOW PASS FREQ dial will only be activated if the FLAT / LOW PASS switch is in the UP/ON position. Use the dial and switch to power subwoofer speakers. The precise crossover frequency for your subwoofer can be achieved by adjusting the LOW PASS FREQ dial. It is common practice to keep your subwoofer crossover frequency below the usable frequency range of your main left/right speakers. For Example: If the rated frequency response of your main left/right speakers is 100Hz -20kHz set the LOW PASS FREQ dial to 100Hz. With this configuration your main left/right speakers will reproduce frequencies from 100Hz-20kHz and your subwoofer will reproduce the frequencies from 100Hz to 40Hz. This setup will provide a full range listening experience. Each speaker performs differently, use this as a guide and experiment with the LOW PASS FREQ dial to achieve the best results with your system.

⑤ **MONO/STEREO SWITCH:**

Keep this switch in the STEREO position for normal stereo operation. The minimum speaker Impedance that can be used in stereo mode is 4ohms. The MONO switch can be used to combine the left and right amplifiers to one single higher power amplifier. This is called BRIDGE MONO MODE. Use the BRIDGE MONO MODE for powering a single speaker or speaker driver or subwoofer. The minimum speaker impedance in BRIDGE MONO MODE is 8ohms.

Never connect speakers or multiple speakers to the MA202R with impedances lower than 4ohms in stereo mode and 8 ohms in BRIDGE MONO MODE. Low impedances can damage the MA202R and potentially damage your speakers. If you are unsure how to connect your MA202R contact a Carver technician at www.carver-usa.com before making your connections.

⑥ **ON/AUTO SWITCH:**

The ON/AUTO switch provides two power-on modes. With this switch in the ON position the MA202R will be fully powered-on constantly. Use this mode when you want to disengage the power saving feature or when the MA202R is used continuously for long periods of time. With this switch in the AUTO position the MA202R will operate normally and will enter the power saving standby mode automatically if the input signal is not present for more than 4 minutes. This is the normal operating mode for the MA202R. The MA202R will save energy when not in use and will power ON automatically when an audio source is present at the AUX1 input or Bluetooth input. In this mode the MA202R is ready when you are and conserving energy when not in use.

⑦ **AUX1 INPUT (RCA):**

Connect your wired music source here using RCA jacks. The AUX 1 INPUT will accept line level sources from CD/Blue Ray players, computers, MP3 players radio tuners, pre-amplifiers, mixers and practically any line level audio source.

IMPORTANT NOTE:

The AUX 1 INPUT jacks and the Bluetooth input are wired in parallel. If both the AUX 1 INPUT and the Bluetooth input are broadcasting at the same time both sources will be heard simultaneously. When using the AUX 1 INPUT always turn your Bluetooth device OFF. When using your Bluetooth device always turn your AUX 1 INPUT source off.

⑧ AUX 1 OUTPUT (RCA):

The AUX 1 OUTPUT is a line level variable pre-amp output which can be used to connect the line level output of the MA202R to other devices such as auxiliary amplifiers, mixers or more commonly powered subwoofers like the Carver BAS8. This is the most common connection for the AUX 1 OUTPUT. This output is variable which means when the front panel master volume control is adjusted up/down the level of the AUX 1 OUTPUT will also change or “track”. This is very useful when connecting the MA202R to a powered subwoofer which will have its own volume control. Once the desired subwoofer volume is achieved the MA202R will raise or lower the subwoofer volume in conjunction with the main speakers connected to the MA202R speaker outputs.

⑨ SPEAKER OUTPUT TERMINALS:

The speaker output terminals are 5 way binding posts that will accept speaker wire gauges from 18awg to 12awg with direct wire-in, spade lug or banana jack connections. Turn the terminal counter clockwise to unscrew the protector and expose the terminal for direct wire-in. Turn the terminal clockwise to tighten the protector over the wire and never over tighten. Connect your (min 4ohm) left channel speaker to the “L” terminal keeping the + positive wire to the RED connector and the – negative wire to the BLACK terminal. Repeat these connections for your (min 4ohm) right channel speaker. Pay close attention to the polarity of the wires. Always keep the + to RED and the – to BLACK. Crossing any one of these connections can create reverse polarity in one speaker which will destroy the sound quality of your stereo system.

IMPORTANT NOTE: Never cross positive and negative wires. This will short the amplifier potentially causing damage to the MA202R.

⑩ SPEAKER OUTPUT TERMINALS BRIDGE MONO:

In bridge mono mode connect one (min 8ohm) speaker to the following terminals, + positive to the LEFT RED terminal and the – negative to the RIGHT BLACK terminal. Leave the other two terminals unconnected.

⑪ AC POWER INLET:

Connect the supplied AC power cable to the AC inlet jack and push into place making sure that the AC cable is fully inserted. If the MA202R will be left unused for an extended period of time we recommend that the power cord be disconnected from the wall outlet. This will insure that power surges, power brownouts and lightning strikes will not damage the MA202R.

⑫ BACK PANEL FAN PORT:

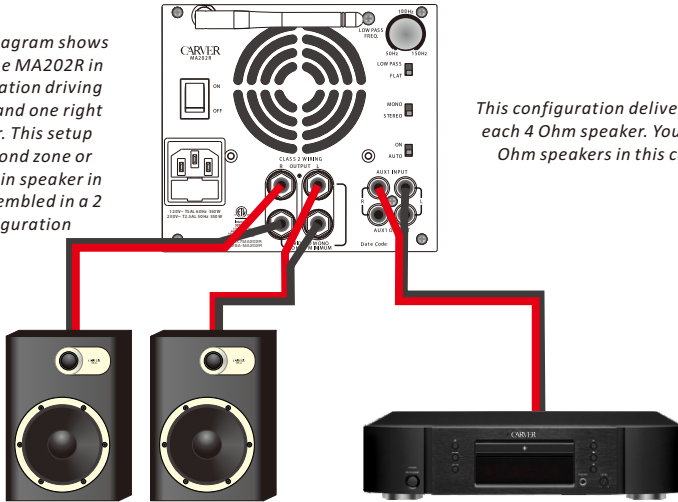
The MA202R back panel fan port should never be blocked. Always provide a minimum of 3 inches of clearance from the back of the unit to any wall or solid surface. We recommend that you vacuum the vent periodically to remove dust and contaminants that can clog the fan and the fan port.

CONNECTION DIAGRAMS

Stereo Connection

This diagram shows the MA202R connected to 2 speakers in a stereo configuration. The crossover switch is in the FLAT position. Speakers can be 4-8 Ohms.

This connection diagram shows a typical use of the MA202R in a stereo configuration driving one left channel and one right channel speaker. This setup is ideal for a second zone or whenever the main speaker in the room are assembled in a 2 channel configuration



This configuration delivers 75 watts into each 4 Ohm speaker. You can also use 8 Ohm speakers in this configuration

Bridged Subwoofer Connection

This diagram shows the MA202R connected to 1 subwoofer in a bridged configuration. The LEFT input is the mono input for the bridged configuration and will come from your receiver or preamplifier's subwoofer output. The crossover switch is in the LOWPASS position. Crossover frequency should begin around 100Hz and be fine tuned once the system is playing as it depends on the frequency response of the other main speakers in your system. The subwoofer should be no less than 8 Ohms.

This connection diagram shows a typical use of the MA202R in a bridged configuration driving a single subwoofer. This setup is ideal for non powered subwoofers or the woofer portion of a multi-element speaker that has bi-amp capabilities

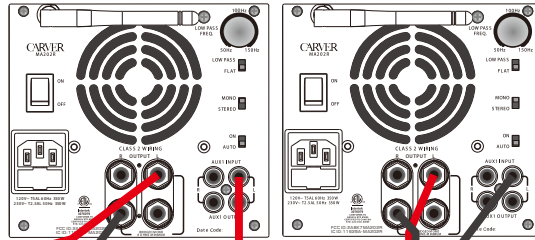


This configuration delivers 150 watts into a single 8 Ohm speaker. You MUST use a speaker with a minimum of 8 Ohms nominal impedance for the bridged configuration!

Bridged Dual Mono Connection

This diagram shows two MA202R amplifiers connected to 2 full range speakers, each in a bridged configuration. The crossover switch is in the FLAT position. The RCA inputs are split so that each channel is fed into the LEFT RCA input at the amplifier. The LEFT input is the mono input for the bridged configuration. The speakers should be no less than 8 Ohms. This configuration allows the greatest channel separation and increases the individual power for each speaker.

This connection diagram shows a typical use of two MA202R's in a "dual mono" stereo configuration with each one driving a single full range speaker. This setup is ideal for a maximizing power to a speaker that requires 150 watts instead of 75 watts. You would gain roughly 3dB in output over a single amplifier configuration using this method.



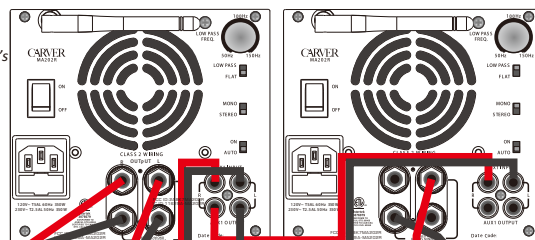
This configuration delivers 150 watts into each 8 Ohm speaker. You MUST use a speaker with a minimum of 8 Ohms nominal impedance for the bridged configuration!



Daisy Chained MA202R Amplifiers

This diagram shows two MA202R amplifiers in a "Daisy Chain" configuration. Using the LINE OUT RCA jacks, you can pass signal through the MA202R on to other MA202R amplifiers. Based on how you want the amplifiers after the first one is configured, you can select stereo or mono operation. It's advised to use the stereo amplifiers first in the signal chain and then break off to the mono configurations when using multiple MA202R amplifiers.

This connection diagram shows a typical use of two MA202R's running an entire full bandwidth, multi-speaker system. This setup is ideal for a using small "book shelf" style main speakers and a separate discrete subwoofer to reinforce the low frequency content.



This configuration delivers 75 watts into each 4 Ohm stereo speaker (on the left). You can also use 8 Ohm speakers in this configuration

This configuration also delivers 150 watts the 8 Ohm subwoofer. You MUST use a speaker with a minimum of 8 Ohm nominal impedance for the bridged configuration!



TROUBLESHOOTING GUIDE

The CARVER MA202R is designed and built to provide years of trouble-free performance. Most problems that occur can usually be solved by checking your setup or making sure that the audio and video components connected to the amplifier are on and fully operational. If the problem persists, contact your CARVER Dealer for help.

No Sound (from one or more speakers connected to the MA202R)

- Speaker cables may have come undone. Turn off your system and check the cables, and tighten the amplifier and speaker binding posts.
- Damaged audio cable.
- The preamplifier volume level is low for the channels concerned. Recheck the preamplifier calibration procedure.
- A preamplifier Mute switch may be on, or an external processor loop or a tape monitor loop is engaged.
- Check that your preamplifier or source is running the correct surround sound mode. Maybe it is set for 2-channel stereo when you were expecting 5.1 surround sound.
- Check in case any missing channels have been turned off in a preamplifier setup menu. For example, the center amplifier channel will not receive a signal if the preamplifier has been set to “Phantom”
- The AUTO/ON switch on the MA202R might be in the ON position but the power switch is off. Check the power switch.
- A fuse within the unit may have blown.
- The level on the MA202R is turned down.

The amplifier shuts down unexpectedly

- Check that the positive and negative speaker wires are not shorted together.
- Make sure that no speakers are shorted internally. If you have an ohm-meter, disconnect the speaker wires and measure the resistance between the speaker’s positive and negative terminals. If the reading is less than 4 ohms, you may be using speakers with too low a nominal impedance OR they could be electrically shorted. Measure all speakers and check their impedance specifications.
- If you have connected speakers in parallel, the overall impedance may be too low. It is recommended that you rearrange the speakers in a series wiring configuration to increase the overall impedance, thus taking some of the load off the amplifier.
- Make sure that the amplifier has good ventilation and is not overheating

Poor Bass Performance From Full Range Speakers connected to the MA202R

- Make sure that your preamp does not have the bass (tone control) level turned down.
- Many surround preamplifiers have controls which can direct all the bass to subwoofers or let your main speakers play the full range. Make sure that the preamplifier has been correctly set. If you are not using a subwoofer, set the speaker options to “Large” where possible.
- Check that the speaker wires have been connected correctly. Make sure that the positive of each speaker connects to a positive output of the MA202 amplifier, and the negative of each speaker connects to a negative output of the MA202 amplifier. If one speaker is wired incorrectly, then it will be “out of phase” with the others resulting in poor bass performance.

Turn-on and turn-off thumps

- Plug the amplifier into an un-switched AC outlet, and use the AUTO position of the turn on switch at the back of the amplifier. This will allow the amplifier to turn on and off silently.

“Hum” Noises in the Speakers

This problem is more than likely caused by a “ground loop” in your system, rather than a fault in the MA202R. Follow these steps to isolate the main cause of the hum, there may even be more than one. Remember to turn off all components in your system, including the MA202R, before disconnecting or connecting any cables.

- Remember to turn off all components in your system, including the amplifier, before disconnecting or connecting any cables during troubleshooting.
- Try to have all of your equipment on the same electrical outlet or circuit. Group all the low power components (preamp, CD player, DVD etc.) on a single outlet or power strip. This is provided that the overall current draw from your equipment does not exceed the rating of the outlet or breaker.
- Disconnect all cables which come from outside the room, and check if the hum goes away. This includes such connections as cable TV, satellite TV, or roof top antennas. Make sure that they are disconnected where they first enter the room, so they are making no connection to the preamplifier or the TV, or any other component. If the hum is caused by the cable TV line, then you will need a “ground loop isolator.” This is an inexpensive device fitted in line with the coaxial cable feed. Contact your cable company or your CARVER Dealer for assistance.
- Disconnect all connections from the preamplifier to your TV, VCR or DVD.
- As a test, disconnect any other component which has a grounded power cord. Never remove the ground pin from any power cords (if present). This is very dangerous.
- If the hum persists, disconnect all the source components one at a time from the back of the preamplifier, until you identify the problem.
- Try moving the speaker cables away from any power cords. Try just one speaker, connecting it to each amplifier channel and see if one channel is bad.
- Check that the interconnect cables to the amplifier do not have any broken connections. The best way to do this is to substitute a known good connection for the suspect connection. If you reverse the cables and the problem goes away, the cable may be damaged or broken. This is possible even if you can’t physically see the break as the strain for pulling on audio cables can sometimes break the wire internally.

Ground loop isolators for audio lines and video devices are available from you CARVER Dealer. Although this is not always an ideal solution, the grounding differences between certain home entertainment components sometimes require ground loop isolators. This is the exception rather than the rule.

Other Probable Causes of Noise

Speaker noise may also be caused by interference or noise on your AC line. Make sure there are no large appliances sharing the line, or halogen lamps or light-dimming Triac devices.

- Try connecting your system to another AC socket on a separate line.
- If the hum is heard from within the MA202R and not through the speakers, this may also be caused by interference on the AC or DC lines. The power transformers may turn this interference into an audible noise. Internal hum can be made worse by a shelf or cabinet resonating, so try moving the MA202R to another shelf.
- Try moving your components further away from the TV, especially if you ever notice the screen has changed color in the area closest to the component.

If you have very high efficiency speakers, these may tend to reveal noises which other speakers do not.

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