



M2

Direct Digital Amplifier

ENGLISH




Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

SAVE THESE INSTRUCTIONS FOR LATER USE.

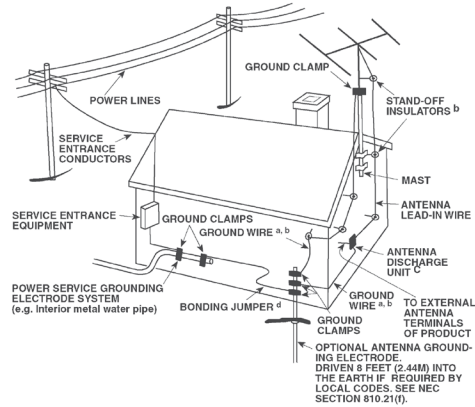
FOLLOW ALL WARNINGS AND INSTRUCTIONS MARKED ON THE AUDIO EQUIPMENT.

- 1 Read instructions** - All the safety and operating instructions should be read before the product is operated.
- 2 Retain instructions** - The safety and operating instructions should be retained for future reference.
- 3 Heed Warnings** - All warnings on the product and in the operating instructions should be adhered to.
- 4 Follow Instructions** - All operating and use instructions should be followed.
- 5 Cleaning** - Unplug this product from the wall outlet before cleaning. Do not use liquid cleaners or aerosol cleaners. Use a damp cloth for cleaning.
- 6 Attachments** - Do not use attachments not recommended by the product manufacturer as they may cause hazards.
- 7 Water and Moisture** - Do not use this product near water—for example, near a bath tub, wash bowl, kitchen sink, or laundry tub; in a wet basement; or near a swimming pool; and the like.
- 8 Accessories** - Do not place this product on an unstable cart, stand, tripod, bracket, or table. The product may fall, causing serious injury to a child or adult, and serious damage to the product. Use only with a cart, stand, tripod, bracket, or table recommended by the manufacturer, or sold with the product. Any mounting of the product should follow the manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.
-  A product and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the product and cart combination to overturn.
- 10 Ventilation** - Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
- 11 Power Sources** - This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.
The primary method of isolating the amplifier from the mains supply is to disconnect the mains plug. Ensure that the mains plug remains accessible at all times. Unplug the AC power cord from the AC outlet if the unit will not be used for several months or more.
- 12 Grounding or Polarization** - This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
- 13 Power - Cord Protection** - Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the product.

- 14 Outdoor Antenna Grounding** - If an outside antenna or cable system is connected to the product, be sure the antenna or cable system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna discharge unit, size of grounding conductors, location of antenna discharge unit, connection to grounding electrodes, and requirements for the grounding electrode.

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV system installer's attention to Section 820-40 of the NEC which provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.



- 15 Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.
- 16 Power Lines** - An outside antenna system should not be located in the vicinity of overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an outside antenna system, extreme care should be taken to keep from touching such power lines or circuits as contact with them might be fatal.
- 17 Overloading** - Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.
- 18 Object and Liquid Entry** - Never push objects of any kind into this product through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

WARNING: THE APPARATUS SHOULD NOT BE EXPOSED TO DRIPPING OR SPLASHING, AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THE APPARATUS. AS WITH ANY ELECTRONIC PRODUCTS, USE CARE NOT TO SPILL LIQUIDS INTO ANY PART OF THE SYSTEM. LIQUIDS CAN CAUSE A FAILURE AND/OR A FIRE HAZARD.

19 Damage Requiring Service - Unplug this product from the wall outlet and refer servicing to qualified service personnel under the following conditions:

- a) When the power-supply cord or plug is damaged.
- b) If liquid has been spilled, or objects have fallen into the product.
- c) If the product has been exposed to rain or water.
- d) If the product does not operate normally by following the operating instructions. Adjust only those controls that are covered by the operating instructions as an improper adjustment of other controls may result in damage and will often require extensive work by a qualified technician to restore the product to its normal operation.
- e) If the product has been dropped or damaged in any way.
- f) when the product exhibits a distinct change in performance-this indicates a need for service.

20 Replacement Parts - When replacement parts are required, be sure the service technician has used replacement parts specified by the manufacturer or have the same characteristics as the original part. Unauthorized substitutions may result in fire, electric shock, or other hazards.

21 Safety Check - Upon completion of any service or repairs to this product, ask the service technician to perform safety checks to determine that the product is in proper operating condition.

22 Wall or Ceiling Mounting - The product should be mounted to a wall or ceiling only as recommended by the manufacturer.

23 Heat - The product should be situated away from heat sources such as radiators, heat registers, stoves or other products (including amplifiers) that produce heat.

WARNING

TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS PRODUCT TO RAIN OR MOISTURE.

CAUTION

TO PREVENT ELECTRIC SHOCK, MATCH WIDE BLADE OF PLUG TO WIDE SLOT, FULLY INSERT.



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 MAYBE OF SUFFICIENT MAGNITUDE TO CONSTITUTE A RISK OF ELECTRIC SHOCK TO PERSONS.



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 APPLIANCE.



The equipment draws its nominal non-operational power from the AC outlet with its POWER switch at the ON position.

The socket-outlet shall be installed near the apparatus and shall be easily accessible.

CAUTION

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

CAUTION REGARDING PLACEMENT

To maintain proper ventilation, be sure to leave a space around the unit (from the largest outer dimensions including projections) that is equal to or greater than shown below.

Left and Right Panels: 10 cm

Rear Panel: 10 cm

Top Panel: 50 cm

IMPORTANT SAFETY INSTRUCTIONS

NOTES ON ENVIRONMENTAL PROTECTION



At the end of its useful life, this product must not be disposed of with regular household waste but must be returned to a collection point for the recycling of electrical and electronic equipment. The symbol on the product, user's manual and packaging, point this out.

The materials can be reused in accordance with their markings. Through re-use, recycling of raw materials or other forms of recycling of old products, you are making an important contribution to the protection of our environment. Your local administrative office can advise you of the responsible waste disposal point.

INFORMATION ABOUT COLLECTION AND DISPOSAL OF WASTE BATTERIES (DIRECTIVE 2006/66/EC OF THE EUROPEAN PARLIAMENT AND THE COUNCIL OF EUROPEAN UNION) (FOR EUROPEAN CUSTOMERS ONLY)



Pb



Hg

Cd

Batteries bearing any of these symbols indicate that they should be treated as "separate collection" and not as municipal waste. It is encouraged that necessary measures are implemented to maximize the separate collection of waste batteries and to minimize the disposal of batteries as mixed municipal waste.

End-users are exhorted not to dispose waste batteries as unsorted municipal waste. In order to

achieve a high level of recycling waste batteries, discard waste batteries separately and properly through an accessible collection point in your vicinity. For more information about collection and recycling of waste batteries, please contact your local municipality, your waste disposal service or the point of sale where you purchased the items.

By ensuring compliance and conformance to proper disposal of waste batteries, potential hazardous effects on human health is prevented and the negative impact of batteries and waste batteries on the environment is minimized, thus contributing to the protection, preservation and quality improvement of the environment.

RECORD YOUR MODEL NUMBER (NOW, WHILE YOU CAN SEE IT)

The model and serial number of your new M2 are located on the back of the cabinet. For your future convenience, we suggest that you record these numbers here:

Model no:

Serial no.:

QUICK START

In case you simply cannot wait to experience the performance of your new NAD M2 Direct Digital Amplifier, we provide the following QUICKSTART instructions to get you underway.

Please make all the connections to your M2 with the unit unplugged from the AC outlet. It is also advisable to power-down or unplug all associated components while making or breaking any signal or AC power connections.

- 1 Connect your speakers to the LEFT and RIGHT speaker terminals and input sources to the applicable M2 rear panel input sockets.

WARNING

The M2 employs a "floating" ground design. External devices (such as speaker switching or headphone adaptors) that connect the left and right channels together must not be used with the M2. Left and right channels must never be connected to each other.

- 2 Make sure that the OFF/AUTO trigger switch at the M2 rear panel is set to OFF. Connect the AC cord to M2's AC Mains input and then plug into an AC outlet.

WARNING

For optimal performance, the M2 requires a grounded AC receptacle or a separate earth ground. Ensure the proper grounding of your system.

- 3 Set the rear panel POWER switch to the "ON" position. The Standby LED will illuminate amber (standby mode).
- 4 Press the front panel STANDBY button to turn ON the M2. The Standby LED indicator will turn from amber to blue and illuminate the VFD.
- 5 Press the corresponding front panel input button of your preferred source input.

SAVE THE PACKAGING

Please save the box and all of the packaging in which your M2 arrived. Should you move or otherwise need to transport your M2, this is by far the safest container in which to do so. We've seen too many otherwise perfect components damaged in transit for lack of a proper shipping carton, so please: Save that box!

NOTES ON INSTALLATION

Your NAD M2 should be placed on a firm, level surface. Avoid placing the unit in direct sunlight or near sources of heat and damp. Allow adequate ventilation. Do not place the unit on a soft surface like a carpet. Do not place it in an enclosed position such a bookcase or cabinet that may impede the air-flow through the ventilation slots. Make sure the unit is switched off before making any connections.

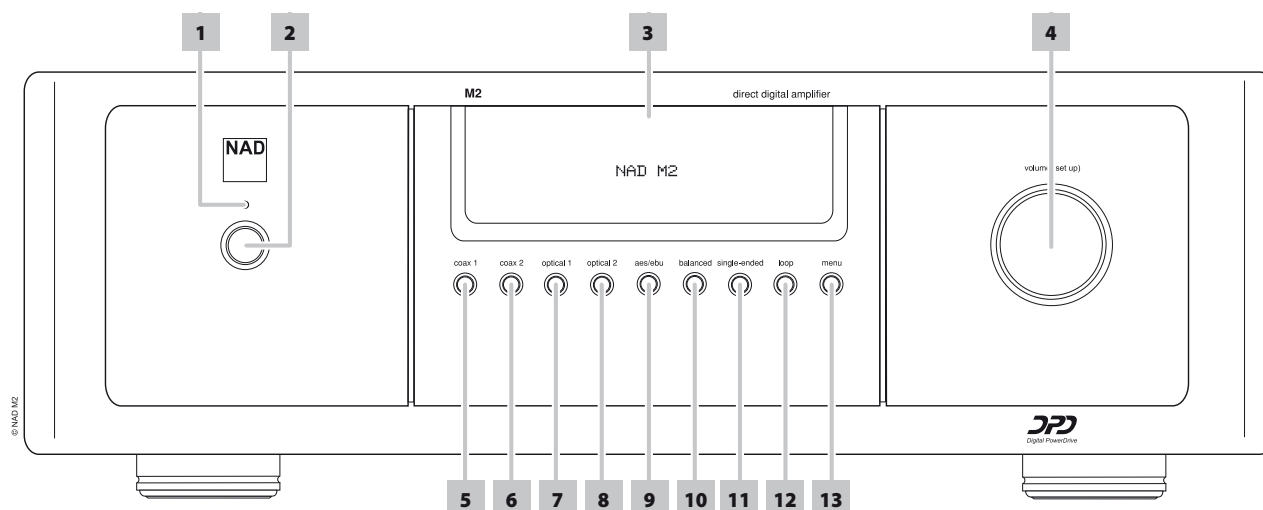
Use high quality leads and sockets for optimum performance and reliability. Ensure that leads and sockets are not damaged in any way and all sockets are firmly pushed home. For best performance, use quality speaker leads of 16 gauge (1.5mm) thickness or more.

Should water get into your NAD M2, shut off the power to the unit and remove the plug from the AC socket. Have the unit inspected by a qualified service technician before attempting to use it again.

DO NOT REMOVE THE COVER; THERE ARE NO USER-SERVICEABLE PARTS INSIDE.

IDENTIFICATION OF CONTROLS

FRONT PANEL



1 STANDBY LED: This indicator will light up amber when M2 is in standby state. When M2 is at ON state, this indicator will illuminate blue.

2 STANDBY BUTTON: Press this button to switch ON the M2. The Standby LED indicator will turn from amber to blue and illuminate the VFD. Pressing the STANDBY button again turns the unit back to standby mode.

IMPORTANT NOTICE

The rear panel POWER switch must be set to ON position for the STANDBY button to activate. After pressing the STANDBY button, there will be a delay before the M2 will be completely enabled. Please wait until the initial "NAD M2" display in the VFD is extinguished before you select any of the source input or features of your M2.

3 VACUUM FLUORESCENT DISPLAY (VFD): Display visual information about the selected source input, menu options, volume level and other related information and settings.

4 VOLUME: Use this control to adjust M2's overall amplification or volume level. Turn clockwise to increase the volume setting; counter clockwise to lower it. The M2 features a "velocity sensing" volume control; rapid movement changes the volume in large steps, slow movement increments the volume in 0.5dB steps. The VOLUME knob is also used to select options or adjust settings when MENU button is activated.

5 COAX 1: Select the source connected to the COAX 1 rear panel terminal as the active input.

6 COAX 2: Select the source connected to the COAX 2 rear panel terminal as the active input.

7 OPTICAL 1: Select the source connected to the OPTICAL 1 rear panel terminal as the active input.

8 OPTICAL 2: Select source connected to the OPTICAL 2 rear panel terminal as the active input.

9 AES/EBU: Select the source connected to the AES/EBU IN rear panel connector as the active input.

10 BALANCED: Select the source connected to the BALANCED L and BALANCED R rear panel connectors as the active input.

11 SINGLE-ENDED: Select the source connected to the SINGLE-ENDED L and SINGLE-ENDED R rear panel terminals as the active input.

12 LOOP (DIGITAL PROCESSOR LOOP): Allow the insertion of external digital filters into the signal path. This is the digital equivalent of the analog "Tape Monitor Loop". An example on how to take advantage of this feature is illustrated below.

- Connect a digital input to the rear panel's OPTICAL 1 TosLink optical terminal.
- Connect the rear panel's OPTICAL LOOP OUT to a compatible OPTICAL IN of a Mac or any processor where the signal can be subjected to a wide library of crossover filters, equalization or room correction programs (Check if your Mac or processor has these feature capabilities).
- Send out the processed signal from your Mac or processor's corresponding Optical Out port into M2's OPTICAL LOOP IN thereby completing the signal loop path.
- Press front panel's "loop" button to select your OPTICAL 1's "processed" input signal. When "loop" feature is engaged, "LOOP" will be continuously displayed at the lower left corner of the VFD after a brief display of sample rate setting of the source.

IMPORTANT NOTICE

With "loop" button enabled, there will be no audio output if any connection from the above "loop" setup example is "broken" (i.e., no connection to OPTICAL OUT, not looped to "OPTICAL LOOP IN", etc). Press "loop" button again to deactivate or turn off the "loop" feature ("LOOP" is extinguished in the VFD) thus returning to normal audio listening of a selected source input.

NOTE

This digital processor loop feature can be applied to all analog and digital audio input signal sources (Optical 1-2, Coax 1-2, AES/EBU, BALANCED and SINGLE-ENDED).

13 MENU: Toggle to view the available options such as LEVEL TRIM and SAMPLE RATE options for BALANCED and SINGLE-ENDED input signal as well as selections for SPEAKER COMPENSATION and POLARITY. These menu options are accessed by pressing the MENU button and then rotating the VOLUME control knob clockwise or counterclockwise to select desired level or setting. Release the VOLUME knob when you reach your preferred level or setting. The change will take effect after a few seconds when the display returns to show the default information (selected input and volume setting). Press MENU button again to select another menu option.

LEVEL TRIM: Adjust the BALANCED or SINGLE-ENDED input signal level from -9dB to 0dB or FIXED.

-9dB to 0dB: Increase or decrease the input signal level from -9dB to 0dB. This attenuates the signal before the Analog-to-Digital (A/D) Converter. If the analog input signal sounds distorted, the input should be attenuated.

NOTE

Attenuating too much can reduce the potential resolution of the A/D Converter.

FIXED: This setting should be selected when M2 is connected to the output of a preamplifier and is used primarily as a power amplifier. Output level is fixed and the M2's Volume Control is bypassed. Adjust the level using the source signal's preamplifier volume or input level control.

NOTE

VOLUME control is bypassed and cannot be adjusted when LEVEL TRIM is set to "FIXED" setting. The corresponding VOLUME level (in dB) will not appear in the VFD; what will be shown instead is "VOL FIXED". Set LEVEL TRIM to any other level except "FIXED" to adjust VOLUME control to desired level.

SAMPLE RATE (48 kHz, 96 kHz, 192 kHz): Select the user's preference for sample rate of the A/D Converter. Higher sampling rates allow for anti-aliasing filters to take effect further outside the audible frequency range and are generally considered to sound better, especially in the high frequencies. You may need to reduce the sampling rate if you are using the Digital Processor Loop, as many external devices will not operate at 96 kHz or 192 kHz.

SPEAKER COMPENSATION (2 Ohms, 4 Ohms, 5 Ohms, 6 Ohms, 7 Ohms, 8 Ohms, >8 Ohms): Digital impedance compensation filter allows fine tuning of the top octave to match the speaker impedance. This will result in perfectly flat frequency response at 20 kHz. The effect of this filter may not be audible* but it is measurable, and it compensates for the small effect of the digital reconstruction filter that eliminates the 288 kHz sampling frequency of the amplifier.

*The exception may be some electrostatic speakers that have very low impedance at high frequency. The lower the HF impedance, the greater the deviation from flat response.

POLARITY (POSITIVE, REVERSED): Allow compensation for recordings that have reversed polarity.

Positive: A positive sine wave at the input remains positive at the output.

Reversed: A positive sine wave at the input is negative (inverted) or reversed at the output.

IMPORTANT NOTICE

For all of the above menu options, a chosen option or level setting will not immediately take effect upon selection. There will be a slight delay or pause before the corresponding action or response is realized.

RENAMING A SOURCE INPUT

A particular source input can be renamed according to your preference. You can use up to 20 characters in renaming a source input. Below is the procedure on how to rename a source input.

Example: Rename "DIGITAL OPTICAL 1" to "BD PLAYER".

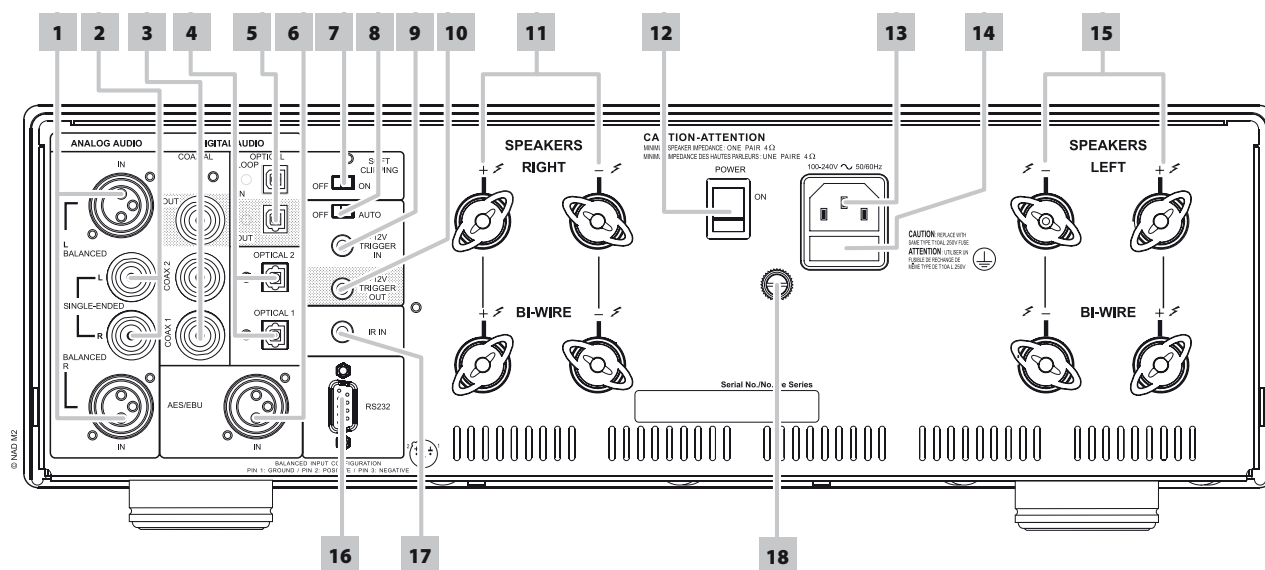
- 1 Press the front panel "optical 1" button to select "DIGITAL OPTICAL 1" input. Then, press and hold the front panel "optical 1" button until "DIGITAL OPTICAL 1" is shown in the lower section of the VFD and with "D" flashing (Note that "DIGITAL OPTICAL 1" is also shown at upper section of the VFD).
- 2 Within 5 seconds, rotate the VOLUME control knob clockwise or counterclockwise to select the first character ("B" from the alphabetical list). The ranges of characters available are 0-9, _ (space) and A-Z.
- 3 Press the front panel "loop" button to select the character and at the same time move on to the next character. Repeat steps 2 and 3 for each character in sequence.
- 4 Complete the renaming process by pressing the front panel "menu" button to save the new source input name.

NOTES

- Renaming of a source input can only be done using the front panel buttons.
- If no change is made within 5 seconds or if the front panel button of the source input being renamed is pressed, the renaming process will be automatically terminated with any renamed characters made not saved.
- You can terminate the renaming process by pressing any other front panel buttons (except "loop", "menu" or the current source input being renamed). The renamed characters at the time of terminating the process will be saved.

IDENTIFICATION OF CONTROLS

REAR PANEL



ATTENTION!

Please make sure that the M2 is powered OFF or unplugged before making any connections. It is also advisable to power-down or unplug all associated components while making or breaking any signal or AC power connections.

- 1 BALANCED:** Connect XLR audio source to these connectors. Ensure that proper pin configurations are followed – Pin 1: Ground, Pin 2: Positive (signal live) and Pin 3: Negative (signal return).
- 2 SINGLE-ENDED:** Use a twin RCA-to-RCA lead to connect to these sockets the left and right analog output of a CD player, preamplifier or processor.
- 3 DIGITAL AUDIO (COAX 1-2):** Connect to the corresponding coaxial S/PDIF-format digital output of sources such as SACD/CD players, HDTV or satellite tuners and other components.

DIGITAL AUDIO OUT (COAXIAL OUT): Connect COAXIAL OUT to the corresponding S/PDIF digital input of compatible devices such as CD recorders, receivers, computer soundcard or other digital processors.
- 4 DIGITAL AUDIO (OPTICAL 1-2):** Connect to the corresponding optical S/PDIF-format digital output of sources such as SACD/CD players, HDTV or satellite tuners and other components.

IMPORTANT NOTICE

For high-end sources with higher sampling rates like 176kHz and 192kHz, it is highly recommended that such sources be interfaced with the AES/EBU IN connector. The AES/EBU IN is well suited to handle sources with ultra-high sampling rates.

- 5 DIGITAL AUDIO OPTICAL LOOP (OPTICAL LOOP OUT, OPTICAL LOOP IN):** Connect OPTICAL LOOP OUT to the corresponding S/PDIF digital input of compatible devices such as CD recorders, receivers, computer soundcard or other digital processors. This OPTICAL LOOP OUT terminal is the same digital output that can be fed to a Mac or processor where the signal can be subjected to a wide library of third party crossover filters, equalization or room correction programs.

The processed signal from the Mac or processor is then sent out through their corresponding Optical Out port into M2's OPTICAL LOOP IN thereby completing the signal loop path.

Refer also to the item above about "LOOP (DIGITAL PROCESSOR LOOP)" under IDENTIFICATION OF CONTROLS – FRONT PANEL.

- 6 AES/EBU IN:** Digital audio stream from professional audio sources like SACD/CD Players or processors can be connected to this XLR connector. For high-end sources with higher sampling rates like 176kHz and 192kHz, it is highly recommended that such sources be interfaced with the AES/EBU IN connector. The AES/EBU IN is well suited to handle such sources with high sampling rate.
- 7 DIGITAL SOFT CLIPPING™:** Enables NAD's proprietary Soft Clipping circuitry on all channels. At ON position, Soft Clipping gently limits the output of the M2 to minimize audible distortion should the amplifier be over-driven. Soft Clipping may simply be left ON at all times to reduce the likelihood of audible distortion from excessive volume settings. However, for critical listening and to preserve optimum dynamics, you may wish to defeat it by setting this switch to "OFF" position.
- 8 OFF/AUTO TRIGGER SWITCH:** When at AUTO position, the front panel STANDBY button is disabled and M2 remote control's [ON/OFF] button non-functional. At this condition, the M2 can only be switched ON from standby mode or back to standby mode when +12V DC is applied or cut off at the +12V TRIGGER IN jack. Slide the OFF/AUTO switch to OFF setting for the M2 to be normally switched ON (or back to standby mode) using the front panel STANDBY button or M2 remote control's [ON/OFF] button.

NOTE

The rear panel POWER switch must be set to ON position for the STANDBY button to activate. Switch the rear panel POWER switch to ON position in order to make use of the +12V TRIGGER IN and OFF/AUTO TRIGGER SWITCH features as well as the front panel STANDBY button.

9 +12V TRIGGER IN: This input allows the M2 to be switched remotely to standby mode or ON by ancillary equipment, such as an amplifier, preamp, AV processor, etc. The controlling device must be equipped with a 12 V trigger output to use this feature.

10 +12V TRIGGER OUT: The +12V TRIGGER OUT is used for controlling external equipment that is equipped with a +12V trigger input. This output will be 12V when the M2 is ON and 0V when the unit is either OFF or in standby mode.

11 RIGHT SPEAKERS: Connect the right speaker to the terminals marked "R +" and "R -" ensuring that the "R +" is connected to the "+" terminal on your loudspeaker and the "R -" is connected to the loudspeaker's "-" terminal. There are two sets of RIGHT SPEAKER outputs and these are identical in function (parallel connection) and are provided for ease of Bi-wiring with heavy audiophile cables. Double check your speaker connections before powering up the M2.

Always use heavy duty (16 gauge; 1.5mm, or thicker) stranded wire to connect loudspeakers to your M2. The high-current binding post terminals can be used as a screw terminal for cables terminating in spade or pin sockets or for cables with bare wire ends.

BI-WIRING

Most modern high quality loudspeakers offer the option of Bi-wiring. This separates the HF crossover from the LF crossover and offers enhanced performance by preventing LF return currents from affecting the HF performance. If you decide to bi-wire, be sure to remove the "links" at the loudspeaker that connect the LF and HF sections (these are provided for convenience when single wire connection is used). Your loudspeaker instruction manual should cover this subject as well.

WARNING

The M2 employs a "floating" ground design. External devices (such as speaker switching or headphone adaptors) that connect the left and right channels together must not be used with the M2. Left and right channels must never be connected to each other.

12 POWER SWITCH: The POWER switch supplies the master AC mains power for the M2. When this switch is at ON position, the M2 is in standby mode as shown by the amber status condition of the standby LED. Toggle the front panel's STANDBY button to switch ON the M2 or back to standby mode. If you intend not to use the M2 for long periods of time (such as when on vacation), switch the POWER switch to the OFF position. When the POWER switch is at OFF position, the front panel STANDBY button or M2 remote control cannot activate the M2.

13 AC MAINS INPUT: The M2 comes supplied with a separate AC Mains cable. Before connecting the cable to a live wall socket ensure that it is firmly connected to the M2's AC Mains input socket first. Always disconnect the AC Mains cable plug from the live wall socket first, before disconnecting the cable from the M2's Mains input socket.

14 FUSE HOLDER: In the unlikely event a fuse may need to be replaced, unplug the AC cord from the wall. Disconnect also the AC cord from M2's AC Mains input socket. Then, remove all connections from the amplifier. Use a flathead screw or similar to open the fuse holder via the slot located on the top edge of the fuse holder. With the screw driver in place, push it outward to unlatch and open the fuse holder. Only replace the fuse with the same type, size, and specification.

IMPORTANT NOTICE

Do not use any substitute fuses of different types, ratings or values.

Failure to observe this precaution may cause damage to the amplifier circuits and may create a fire hazard and/or defeat the safety built into the M2 thus voiding the warranty.

15 LEFT SPEAKERS: Connect the left speaker to the terminals marked "L +" and "L -" ensuring that the "L +" is connected to the "+" terminal on your loudspeaker and the "L -" is connected to the loudspeaker's "-" terminal. There are two sets of LEFT SPEAKER output and these are identical in function (parallel connection) and are provided for ease of Bi-wiring with heavy audiophile cables. Refer also to "RIGHT SPEAKERS" above.

16 RS-232: Connect this interface via RS-232 serial cable (not supplied) to any Windows® compatible PC to allow remote control of the M2 through NAD's proprietary PC software or other compatible external controllers. NAD is a certified partner of AMX, Control4, Crestron and Savant and fully supports these external devices. See your NAD audio specialist for more information.

17 IR IN: This input is connected to the output of an IR (infrared) repeater (Xantech or similar) or the IR output of another component to allow control of M2 from a remote location.

18 GROUND TERMINAL: The M2 requires a grounded AC receptacle or a separate earth ground. Use this terminal to properly ground your M2. A ground lead wire or similar can be used to connect the M2 to ground via this ground terminal. After insertion, tighten the terminal to secure the lead.

BARE WIRES AND PIN CONNECTORS

Bare wires and pin connectors should be inserted into the hole in the shaft of the terminal. Unscrew the terminal's bushing until the hole in the screw shaft is revealed. Insert the pin or bare cable end into the hole and secure the cable by tightening down the terminal's bushing. Avoid any danger of bare metal from the cables touching the rear panel or another connector.

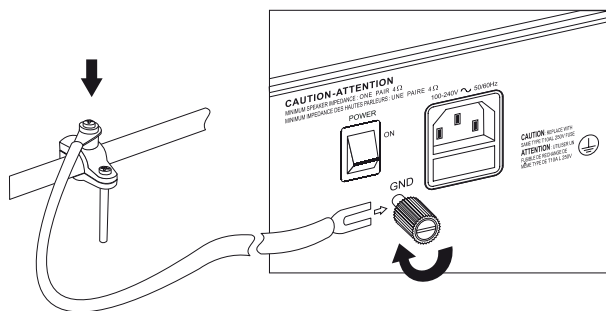
SPADE CONNECTORS

These should be slotted under the terminal's screw bushing, which is then fully tightened. Ensure the connector is tightly secured and there is no danger of bare metal from spade connectors touching the rear panel or another connector as this may cause damage.

IDENTIFICATION OF CONTROLS

REAR PANEL

EXAMPLE ILLUSTRATION OF GROUNDING THE M2 VIA THE REAR PANEL GROUND TERMINAL



NOTES

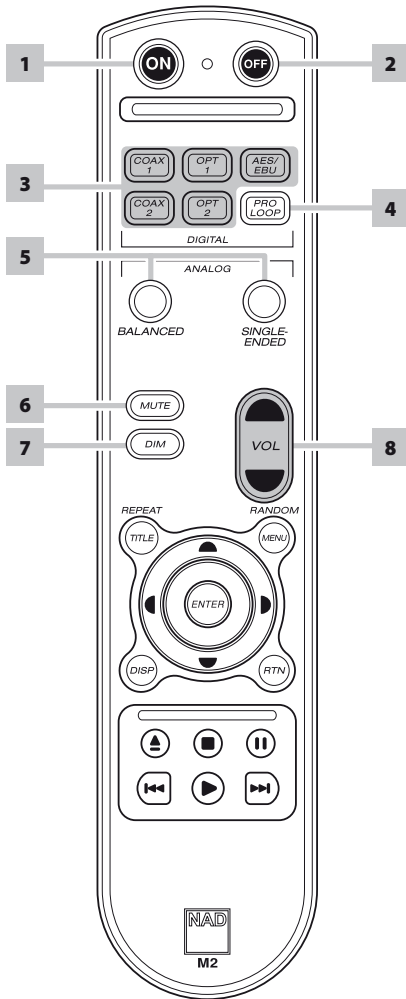
- The above illustration shows the M2 being connected to ground via a metal water pipe. There may be other grounding conductor points in your home. Consult with a licensed electrician to properly locate or correctly install a grounding conductor in your home. NAD is not responsible for any malfunction, damage or costs associated with the installation, connection or grounding of your M2.
- The grounding wire is not supplied with your M2.

DIGITAL POWERDRIVE

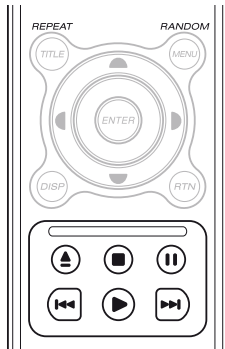
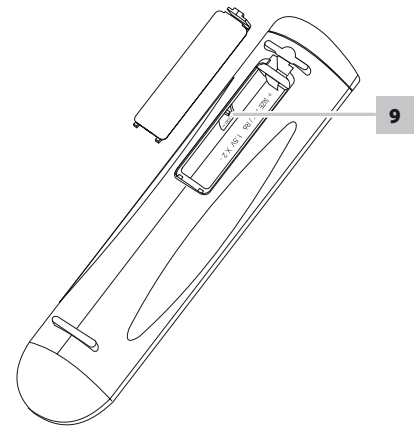
The M2 uses NAD's proprietary Digital PowerDrive™ amplifier technology that allows substantial additional power for short periods of time. Research has shown that the peak to average power required to faithfully reproduce music can be a factor of ten for well recorded performances. Digital PowerDrive uniquely satisfies this requirement. Music sounds more dynamic and "open" with PowerDrive because the musical transients that are present in a live performance are not reduced in amplitude or "compressed".

IDENTIFICATION OF CONTROLS

M2 REMOTE CONTROL

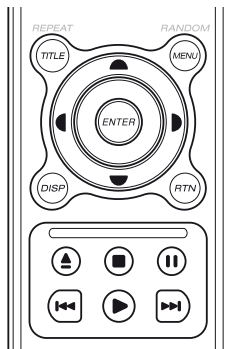


- 1 ON:** Switch M2 ON.
- 2 OFF:** Switch M2 OFF.
- 3 COAX 1-2, OPT 1-2, AES/EBU:** Select Coaxial, Optical or AES/EBU digital source input.
- 4 PRO LOOP:** Activate or deactivate "loop" feature.
- 5 BALANCED:** Select BALANCED source input.
SINGLE-ENDED: Select SINGLE-ENDED source input.
- 6 MUTE:** Temporarily shuts down audio output.
- 7 DIM:** Reduce or restore VFD brightness.
- 8 VOL ▲/▼:** Increase or decrease the loudness level.
- 9 DEVICE SELECTOR 1-2:** Switch between DVD and CD control functions. Set to position "1" for applicable CD control button functions - compatible with NAD models like C 515BEE, C 545BEE, C 565BEE and M5. Set to position "2" for applicable DVD control button functions - compatible with NAD models like T 535, M55, T 585 and DVD section of L 54, VISO FIVE and VISO TWO.



CD PLAYER CONTROL (for use with compatible NAD CD or SACD/CD Players) : Set the DEVICE SELECTOR to "1" in order to gain access to these buttons.

- REPEAT:** Repeat track, file or whole disc.
- RANDOM:** Play tracks or files in random mode.
- ▲:** Open or close disc tray.
- :** Stop playback.
- ||:** Pause playback temporarily.
- ◀◀:** Go to beginning of current/previous track or file.
- ▶:** Start playback.
- ▶▶:** Go to next track or file.



DVD PLAYER CONTROL (for use with compatible NAD DVD Players) : Set the DEVICE SELECTOR to "2" in order to gain access to these buttons.

- TITLE:** Display DVD title menu.
- MENU:** Access menu on a DVD disc.
- DISP:** Access on-screen display.
- RTN:** Exit from a menu window.
- ▲/▼/◀/▶:** Select an item in a menu.
- ENTER:** Acknowledge menu selection.
- ▲:** Open or close disc tray.
- :** Stop playback.
- ||:** Pause playback temporarily.
- ◀◀:** Go to the beginning of current/previous track, file or chapter.
- ▶:** Start playback.
- ▶▶:** Go to next track, file or chapter.

REFERENCE

TROUBLESHOOTING

CONDITION	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
The VFD displays "PROTECTION LEFT AMP SHORT".	• Left output short circuit.	<ul style="list-style-type: none"> • Shut down M2 by turning off the rear panel POWER switch. If there is no action undertaken, the M2 will shut down itself (go to standby mode) within 10 seconds the fault happened. • Check for any short circuit at the left and/or right channel output or LEFT and/or RIGHT speakers before restarting the M2 again.
The VFD displays "PROTECTION RIGHT AMP SHORT".	• Right output short circuit.	
The VFD displays "PROTECTION LEFT AND RIGHT SHORT".	• Left and right output short circuit.	
The VFD displays "PROTECTION LEFT CHANNEL ERROR".	• Left channel internal error.	<ul style="list-style-type: none"> • Shut down M2 by turning off the rear panel POWER switch. If there is no action undertaken, the M2 will shut down itself (go to standby mode) within 10 seconds the fault happened. • Restart again the M2 by switching ON the rear panel POWER switch (if you have shut down the M2 via the POWER switch) and then pressing the front panel STANDBY button or remote control's [ON] button.
The VFD displays "PROTECTION RIGHT CHANNEL ERROR".	• Right channel internal error.	
The VFD displays "PROTECTION LEFT AND RIGHT ERROR".	• Left and right channel internal error.	
The VFD displays "MAIN POWER ERROR".	• Error with the internal power supply.	
The VFD displays "START UP ERROR POWER OFF".	• Internal initialization error when powered on.	
The VFD displays "OVERHEAT".	• The M2 is too hot due to insufficient ventilation.	<ul style="list-style-type: none"> • Shut down M2 by turning off the rear panel POWER switch. Ensure that there is adequate space below, above and to the sides of the M2 to allow proper air flow. After the M2 has cooled down normal operation will be restored.
No power.	• The power cord is disconnected.	• Plug the power cord into the wall outlet securely.
	• POWER switch shut down.	• Set the POWER switch to ON position.
M2 always at standby mode; cannot be switched ON using the front panel STANDBY button or remote control.	• OFF/AUTO TRIGGER switch set to "AUTO" position.	• Slide the OFF/AUTO TRIGGER to "OFF" position.
No sound.	• Power AC lead unplugged or power not switched ON.	• Check if AC lead is plugged-in and POWER switched ON.
	• The selected source input has no applied input signal at the corresponding rear panel input socket.	• Check that there is active input signal applied at the corresponding rear panel input socket.
	• Volume control set to minimum level.	• Turn Volume control up to audible level.
	• "LOOP" feature is enabled and a connection in "loop" setup is "broken" (i.e., no connection to OPTICAL OUT, not looped to "OPTICAL LOOP IN"; etc).	<ul style="list-style-type: none"> • Check your "loop" connection setup. • Press "loop" button again to deactivate or turn off the "loop" feature ("LOOP" is extinguished in the VFD) thus returning to normal audio listening of a selected source input.
No sound one channel.	• Speaker not properly connected or damaged.	• Check connections and speakers.
	• Input lead disconnected or damaged.	• Check leads and connections.
M2 does not respond to remote control commands.	• The remote control batteries are dead.	• Replace the remote control batteries.
	• Batteries incorrectly inserted.	• Follow correct battery insertion setup.
	• IR transmitter window on the remote control or IR receiver window on the front panel is obstructed.	• Check IR windows and ensure clear line-of-sight from remote control to M2.
	• M2 front panel is in very bright sunlight or ambient light.	• Reduce sunlight/room lighting.

DIGITAL INPUT (COAXIAL, OPTICAL, AES/EBU)

Input impedance	75Ω (coaxial) 110Ω (AES/EBU)
Sample rate	32kHz to 192kHz
Frequency response	±0.5dB (ref. 20Hz - 20kHz) -3dB (ref. 96kHz)
Channel separation	>90dB (ref. 10kHz, 4Ω, 1/3 rated power)

ANALOG INPUT (BALANCED, SINGLE-ENDED)

Input impedance	36kΩ/200pF
Input sensitivity	318mV (ref.100W) 503mV (ref. rated power)
Maximum input level	5.6Vrms (at -9dB level trim setting)
Frequency response	±0.3dB (ref. 20Hz - 20kHz)
Channel separation	>80dB (ref. 10kHz, 4Ω, 1/3 rated power)

OVERALL SPECIFICATIONS

Continuous output power (ref. 20Hz – 20kHz, rated THD) - 8Ω	≥250W
4Ω	≥250W
2Ω	≥300W
Rated distortion (THD, with AES17 and AP passive 20kHz LP filters)	<0.004% (ref. 20Hz – 20kHz, 500mW - rated power)
Clipping power	>250W (ref. 1kHz, 8Ω, 0.1% THD)
IHF Dynamic power - 8 Ω	300W
4 Ω	≥450W
2 Ω	≥650W
Maximum output current	>27A
Signal/Noise ratio	> 95dB (A-weighted, ref. 1W) >119dB (A-weighted, ref. 250W)
Damping factor	>2000 (ref. 20Hz- 200Hz)

POWER CONSUMPTION

Normal operation	500W (ref. 100 - 240V AC 50/60 Hz)
Standby power	1W
Idle power	100W

DIMENSION AND WEIGHT

Dimensions (W x H x D)	435 x 133 x 454 mm (Net) 435 x 148 x 502 mm (Gross*)
Net weight	20.2kg
Shipping weight	25.8kg

*- Gross dimensions include feet, volume knob and extended speaker terminals.

Specifications are subject to change without prior notice. For updated documentation and features, please log onto www.NADelectronics.com for the latest information about M2.



www.NADelectronics.com

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