NAD®

M17

AV Surround Sound Preamp Processor

Owner's Manual

IMPORTANT SAFETY INSTRUCTIONS

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.

9. **Cart** - 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 to ensure reliable operation of the product and to protect it from overheating. 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 and connected to a MAINS socket outlet with a protective earthing connection. If you are not sure of the type of power supply to your home, consult your product dealer or local power company.

12. **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.

13. **Mains Plug** - Where the mains plug or an appliance coupler is used as the disconnect device, the disconnect device shall remain readily operable.

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.
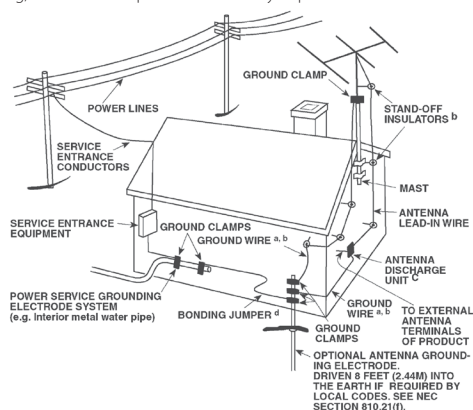
15. **Lightning** - For added protection for this product during a lightning storm, or when it is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the antenna or cable system. This will prevent damage to the product due to lightning and power-line surges.

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. **Flame Sources** - No naked flame sources, such as lighted candles, should be placed on the product.

19. **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.

20. **Headphones** - Excessive sound pressure form earphones and headphones can cause hearing loss.

21. **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.

22. **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.

ENGLISH

23. **Battery Disposal** - When disposing of used batteries, please comply with governmental regulations or environmental public instruction's rules that apply in your country or area.

24. **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.

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

WARNING

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 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.

CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN

CAUTION : TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

THE EQUIPMENT MUST BE CONNECTED TO AN EARTHED MAINS SOCKET-OUTLET.

CAUTION REGARDING PLACEMENT

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

Left and Right Panels: 10 cm
Rear Panel: 10 cm
Top Panel: 10 cm

FCC STATEMENT

This equipment has been tested and found to comply with the limits for 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.

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

To prevent electric shock, match wide blade of plug to wide slot, fully insert.

CAUTION

Marking and rating plate can be found at the rear panel of the apparatus.

WARNING

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

The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

Mains plug is used as disconnect device and it should remain readily operable during intended use. In order to disconnect the apparatus from the mains completely, the mains plug should be disconnected from the mains socket outlet completely.

Battery shall not be exposed to excessive heat such as sunshine, fire or the like.

CAUTION

Danger of explosion if battery is incorrectly replaced. Replace only with the same or equivalent type.

An appliance with a protective earth terminal should be connected to a mains outlet with a protective earth connection.

IF IN DOUBT CONSULT A COMPETENT ELECTRICIAN.

This product is manufactured to comply with the radio interference requirements of EEC DIRECTIVE 2004/108/EC.

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.

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

The model and serial number of your new M17 are located on the back of the cabinet. For your future convenience, we suggest that you record these numbers here:

Model number : . . . .
Serial number : . . . .

INTRODUCTION

TABLE OF CONTENTS

WHAT'S IN THE BOX

Packed with your M17 you will find

- Quick Setup Guide
- BluOS Kit containing USB Hub, Wi-Fi Dongle, Bluetooth USB Micro Adapter and USB to USB Cable Extender
- HTRM 2 remote control with 4 AA batteries
- BluOS-Ready Flyer/Bluesound player
- ZR 7 zone remote control with 3V CR2025 battery
- Measurement microphone with USB Mic adapter and phone jack adapter
- Detachable mains power cord
- Four pieces of magnetic feet
- Four cables of female 3-pin mini XLR to male 3-pin XLR
- Cleaning cloth
- USB flash drive

SAVE THE PACKAGING

Please save the box and all of the packaging in which your M17 arrived. Should you move or otherwise need to transport your M17, 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!

CHOOSING A LOCATION

Choose a location that is well ventilated (with at least several inches to both sides and behind), and that will provide a clear line of sight, within 25 feet/8 meters, between the M17's front panel and your primary listening/viewing position - this will ensure reliable infrared remote control communications. The M17 generates a modest amount of heat, but nothing that should trouble adjacent components.

DEFAULT SOURCE SETTINGS

The following table lists the default SOURCE settings. Note that the Audio input settings show both digital and analog audio input. Digital input will always take precedence over analog audio input even if both are present.

SOURCE	AUDIO INPUT	VIDEO INPUT
Source 1	HDMI 1/Stereo 1	HDMI 1
Source 2	HDMI 2/Stereo 2	HDMI 2
Source 3	HDMI 3/Stereo 3	HDMI 3
Source 4	HDMI 4/Stereo 4	HDMI 4
Source 5	HDMI 5/Stereo 5	HDMI 5
Source 6 (BluOS)	BluOS	BluOS

To modify the above default settings and for a better understanding of source setting and combinations, please refer to the item about "SOURCE SETUP" in the "USING THE M17 - SETUP MENU" segment of the "OPERATION" section.
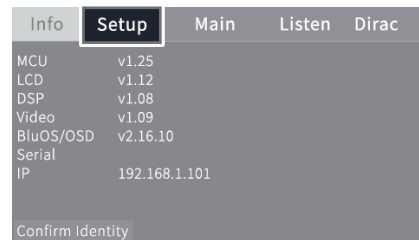
NOTE

Digital input will always take precedence over analog audio input if both are present.
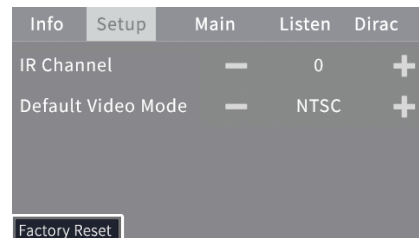
RESTORING M17 TO ITS FACTORY DEFAULT SETTINGS

**1** Press and hold front panel's "Main" display.

Main	Listen	Dirac	Tone	Zone

Source 1
-20.0dB

Dolby Atmos
Stereo 1 HDMI 1   Object 48k
HDMI 1   1920x1080i60 24 bit RGB 4:4:4

2 Select "Setup" display option.

Info	Setup	Main	Listen	Dirac

MCU   v1.25
LCD   v1.12
DSP   v1.08
Video   v1.09
BluOS/OSD   v2.16.10
Serial
IP   192.168.1.101

Confirm Identity

3 Select "Factory Reset" display option.

Info	Setup	Main	Listen	Dirac

IR Channel   —   0   +
Default Video Mode   —   NTSC   +

Factory Reset

4 Select between "Yes (NTSC)" and "Yes (PAL)" to select video mode after Factory Reset. Select "No" if you decide not to reset your M17.

Info	Setup	Main	Listen	Dirac

Factory Reset?

Yes (NTSC)   Yes (PAL)   No
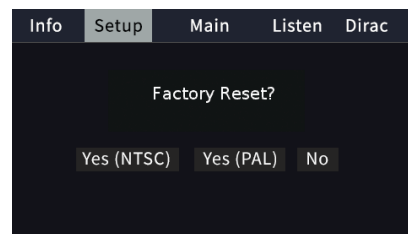
5 Factory reset is complete after the display below and the M17 going to standby mode.

Info	Setup	Main	Listen	Dirac

Factory Reset In Progress
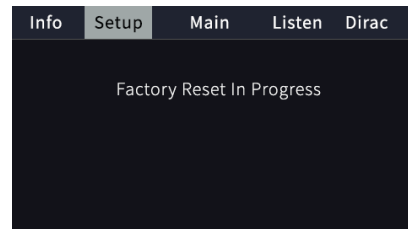
IDENTIFICATION OF CONTROLS

FRONT PANEL
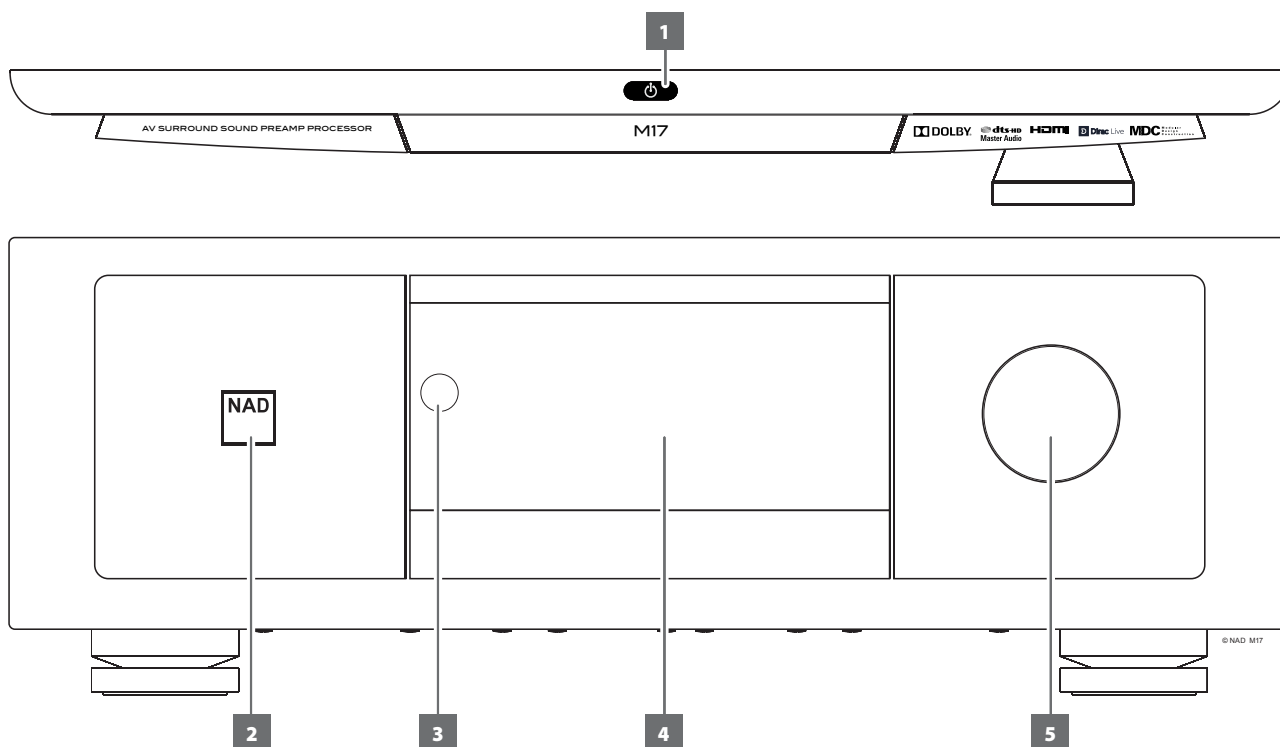
1   ⏻ (STANDBY)
- Press ⏻ (Standby) button for the M17 to be switched ON from standby mode. The Power indicator will turn from amber to bright/white color.
- Pressing ⏻ (Standby) button again switches back M17 to standby mode. The Power indicator will illuminate to amber color at standby mode.
- The ⏻ (Standby) button cannot activate the M17 with the rear panel POWER switched off.

IMPORTANT NOTES
- *Refer also to +12V TRIGGER IN (OFF/AUTO) of IDENTIFICATION OF CONTROLS – REAR PANEL.*
- *For the ⏻ (Standby) button to activate, two conditions must be completed.*
  - *a.   Plug-in the supplied mains power cord to a mains power source. Connect corresponding end of the mains power cord to the AC mains input of M17 and the plug connected to a mains power source.*
  - *b.   The rear panel POWER switch must be set to ON position.*

2   POWER INDICATOR
- This indicator will light up amber when the M17 is at standby mode.
- When M17 is powered up from standby mode, this indicator will turn from amber to bright/white color.

3   REMOTE SENSOR
- Point the HTRM 2 remote control at the remote sensor and press the buttons.
- Do not expose the remote sensor of the M17 to a strong light source such as direct sunlight or illumination. If you do so, you may not be able to operate the M17 with the remote control.

**Distance:** About 23ft (7m) from the front of the remote sensor.
Angle: About 30° in each direction of the front of the remote sensor.

4   DISPLAY
- Information is displayed as supplied by the applicable source.
- There are five display options – Main, Listen, Dirac, Tone and Zone.
- Use your finger to press and select any of these display options to show their corresponding menu options or settings.
- Refer also to the item about FRONT PANEL DISPLAY SETUP under the USING THE M17 - SETUP MENU segment of the OPERATION section.

The following are sample screenshots of the four display options with corresponding description of the information shown.

MAIN
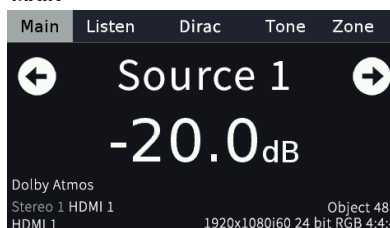
Source 1: Current Source.
-20.0 dB: Volume level.
◀ ▶ **:** Go to previous or next Source.
Dolby Atmos: Audio Codec - Detected audio stream format.
HDMI 1/HDMI 1: Audio and video input source.
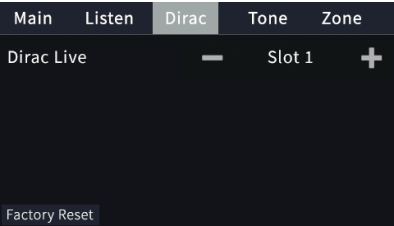**Object 48k:** Audio Source format; sample rate.
1920x1080i60 24 bit RGB 4:4:4: Video mode - Video resolution of current source with frame rate.

LISTEN

Main	Listen	Dirac	Tone	Zone
Mode		━	EARS	✚

EARS: Listening mode.

- +: Go to previous or next Listening mode.

DIRAC

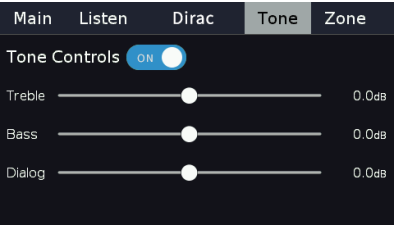| Main	Listen	Dirac	Tone	Zone
Dirac Live		━	Slot 1	✚

Factory Reset

-/+: Go to previous or next available Dirac Live setup option.

Refer also to discussion about DIRAC LIVE under SETUP MENU.

TONE

Main	Listen	Dirac	Tone	Zone
Tone Controls ON				
Treble		●		0.0dB
Bass		●		0.0dB
Dialog		●		0.0dB

ON **:** Slide to turn ON or OFF Tone Controls. At OFF setting, tone controls are disabled or defeated.
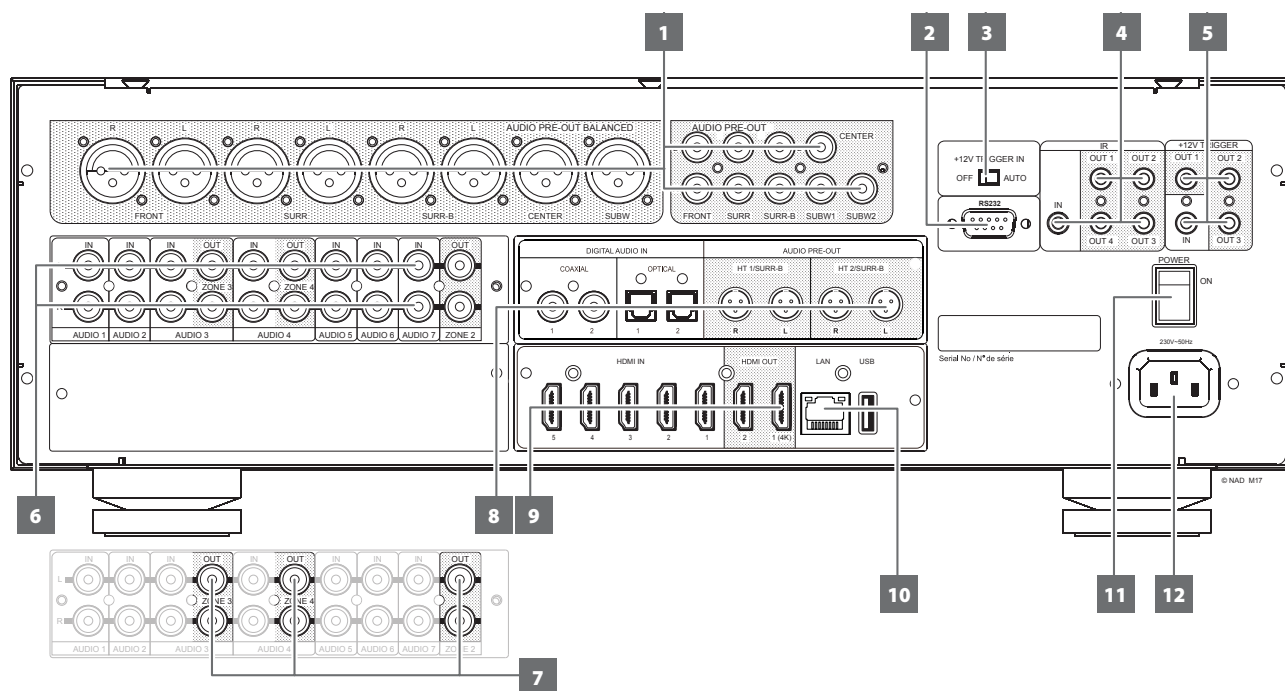
● : Slide to adjust treble, bass or dialog level.

ZONE

Main	Listen	Dirac	Tone	Zone
Zone 2 ON				
⬅		Local		➡
		-20.0dB		
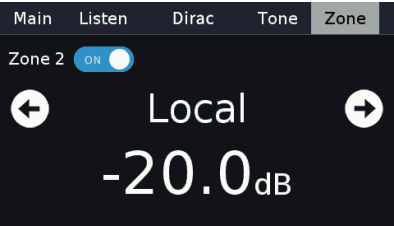
ON **:** Slide to turn ON or OFF Zone 2.

⬅ ➡ : Go to previous or next Source.

5 **VOLUME**
- Use this control to adjust the overall loudness of the signal output at AUDIO PRE-OUT.
- The default volume level is -20dB.

IDENTIFICATION OF CONTROLS

REAR PANEL

ATTENTION!

Please make sure that the M17 is powered off or unplugged from the mains power source 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   AUDIO PRE-OUT (BALANCED)
- AUDIO PRE- OUT makes it possible to use the M17 as a preamplifier to external power amplifiers for some or all channels.
- Depending upon the source's configuration, analog audio output connection can be made up to seven channels either via BALANCED or SINGLE-ENDED output ports.
- Use the AUDIO PRE OUT (BALANCED) if the external source to be connected has BALANCED audio input. Superior audio quality is ensured with the distinctive noise reduction capability of BALANCED connection with XLR jacks.
- Connect FRONT L, FRONT R, CENTER, SURR R, SURR L, SURR-BL and SURR-BR to the respective channel input of a power amplifier or amplifiers driving the corresponding applicable speakers.
- Connect the SUBW1 (and/or SUBW2) output to powered ("active") subwoofers or to power amplifier channels driving a passive system.

AUDIO PRE OUT (SINGLE-ENDED)
- Use single-ended AUDIO PRE OUT for sources that are not equipped with BALANCED analog audio input.

2   RS232
- NAD is a certified partner of AMX and Crestron and fully supports these external devices. Check out the NAD website for information about AMX and Crestron compatibility with NAD. See your NAD audio specialist for more information.
- Connect this interface using RS-232 serial cable (not supplied) to any Windows compatible PC to allow remote control of the M17 via compatible external controllers.
- Refer to the NAD website for information about RS232 Protocol documents and PC interface program.
- Use this port also for firmware upgrade. Instructions on how to use this port for firmware upgrade is included in the firmware upgrade (if any) procedure available from the NAD website.

3   +12V TRIGGER IN (OFF/AUTO)

The settings of +12V TRIGGER IN (OFF/AUTO) together with +12V TRIGGER IN affect the manner how the M17 can be switched ON from standby mode and back to standby mode.

+12V TRIGGER IN (AUTO)
- If +12V TRIGGER IN (OFF/AUTO) is set to AUTO, powering up the M17 is dependent upon the "Auto Trigger In" setting at the "Trigger Setup" menu as well as the absence or presence of +12V DC from +12V TRIGGER IN (item 5).
- With +12V TRIGGER IN (OFF/AUTO) set to AUTO and "Auto Trigger In" set to either "Main" or "All", the front panel ⏻ (Standby) button or HTRM 2's ON/OFF button cannot switch the M17 from standby to operating mode and vice-versa. Both control buttons are disabled effectively handling the function of powering up/down the M17 to the device where Auto Trigger IN is connected.

+12V TRIGGER IN (OFF)
- In order to use the front panel ⏻ (Standby) button or HTRM 2's ON/ OFF button to switch the M17 from standby to operating mode and vice-versa, the +12V TRIGGER IN (OFF/AUTO) switch must be set to "OFF" position.
- The +12V TRIGGER (IN) is disabled when +12V TRIGGER IN (OFF/ AUTO) is set to OFF.

4 IR IN/IR OUT 1-4

These mini-jacks accept and output remote-controlled codes in electrical format, using industry-standard protocols, for use with "IR-repeater" and multi-room systems and related technologies.

- All NAD products with IR IN/IR OUT features are fully compatible with the M17. For non-NAD models, please check with your other product's service specialists with respect to their compatibility to the M17's IR features.

IR IN

- This input is connected to the output of an IR (infrared) repeater (Xantech or similar) or the IR output of another compatible device to allow control of the M17 from a remote location.

IR OUT 1- 4

- Connect IR OUT 1 (or IR OUT 2/IR OUT 3/IR OUT 4) to the IR IN jack of a compatible device.
- Command and control the linked compatible device by directing its own remote control to M17's infrared receiver.

IR IN and IR OUT 1/IR OUT 2/IR OUT 3/IR OUT 4

- Connect the M17's IR IN to the IR OUT of a compatible device. Connect also the M17's IR OUT 1 (or IR OUT 2/IR OUT 3/IR OUT 4) to the IR IN of a compatible device.
- With this setup, the M17 acts as an "IR-repeater" allowing the device connected to the M17's IR IN control or command of the other device linked to M17's IR OUT 1 (or IR OUT 2/IR OUT 3/IR OUT 4).

5 +12V TRIGGER OUT1/OUT2/OUT3

The M17 has three +12V TRIGGER OUT ports (OUT 1, OUT2 and OUT3) that can be configured to supply +12V DC to a linked component or system. See discussion on "Trigger Setup" at the "Setup Menu" literature for guidelines on how to configure +12V TRIGGER IN/OUT.

- Use a 3.5mm mini-jack connector to pass +12 volts at a maximum current of 50 milliamps to an auxiliary equipment such as a multichannel amplifier or subwoofer. The center conductor (hot) of the 3.5mm jack is the control signal. The outside conductor (shield) is the ground return-path.
- This output will be 12V when the M17 is ON and 0V when the unit is either OFF or in standby mode.

+12V TRIGGER IN

With this input triggered by a 12V DC supply, the M17 can be switched ON remotely from standby mode by compatible devices such as amplifiers, preamplifiers, receivers, etc. If the 12V DC supply is cut off, the M17 will return to standby mode.

- Connect this +12V TRIGGER INPUT to the remote device's corresponding +12V DC output jack using a mono cable with 3.5mm male plug. The controlling device must be equipped with a +12V trigger output to use this feature.

6 AUDIO 1-7

- These comprise the M17's other sets of principal input. Connect these analog audio input ports to the corresponding audio output ports of source components such as CD players or other line level audio sources.

AUDIO 3-4 OUT

- Connect AUDIO 3 OUT (and/or AUDIO 4 OUT) to corresponding recording components or audio input ports of compatible sources like CD/DVD recorders or outboard audio processors.
- The signal present at AUDIO 3-4 OUT is determined by the current source selected. There will be no output at AUDIO 3 OUT when AUDIO 3 is selected. Likewise, there will be no output at AUDIO 4 OUT when AUDIO 4 is the active source input. This prevents feedback through the recording component thereby preventing possible damage to your speakers.
- When configured, AUDIO 3 OUT and AUDIO 4 OUT are the same assigned ports for Zone 3 and Zone 4 respectively. Refer also to item 7 about ZONE 2-3-4.

7 ZONE 2-3-4

- The M17 has three configurable Zones – Zone 2, Zone 3 and Zone 4. The Zone feature allows one to simultaneously experience in a different zone or location of the house a Source assigned to a particular zone.
- Zone selected audio source is sent to the corresponding audio input of another zone. Use high quality patch cables to reduce noise pickup over long distance runs.
- For a better understanding of zone settings, study below the section about "Zone Controls" of the "Main Menu" discussion as well as the item about "Zone Setup" under the "Setup Menu" literatures.

8 DIGITAL AUDIO IN (COAXIAL 1-2/OPTICAL 1-2)

- Connect to the corresponding optical or coaxial digital output of sources such as CD or BD/DVD players, digital cable box, digital tuners and other applicable components.
- Coaxial and optical digital input association is configurable via the Source Setup item of the Setup Menu OSD.

AUDIO PRE-OUT (HT 2/SURR-B HT 1/SURR-B)

- Connect HT 2/SURR-B and/or HT 1/SURR-B to the audio input of an external power amplifier hooked up with up to 4 Height speakers.

9 HDMI (HDMI 1- 5, HDMI OUT 1-2)

- Connect HDMI 1-5 to various HDMI OUT connectors of source components such as DVD player, BD player, HDTV satellite/cable box and other applicable types of equipment.
- Connect HDMI 1-2 OUT to HDTVs or projectors with HDMI input. HDMI 1 OUT supports 4K@60 4:4:4 and HDCP 2.2 compliant. Both HDMI output ports display simultaneously the same audio/video source.

WARNING

Before connecting and disconnecting any HDMI cables, both the M17 and the ancillary source must be powered OFF and unplugged from the AC outlet. Failure to observe this practice may cause permanent damage to all types of equipment connected via HDMI sockets.

IDENTIFICATION OF CONTROLS

REAR PANEL

10 ETHERNET/LOCAL AREA NETWORK (LAN) PORT

- LAN connection must be setup for wired connection to be established. Set up a Wired Ethernet broadband router with broadband internet connection. Your router or home network should have a built-in DHCP server to consummate the connection.
- Using a standard straight-through Ethernet cable (not supplied), connect one end of the Ethernet cable to the LAN port of your wired Ethernet broadband router and the other end to M17's LAN port.
- This Ethernet connection has similar function as that of the RS232 connection. With your PC and the M17 on the same network, it allows remote control of the M17 via compatible external controllers.
- The IP address of your network-connected M17 can be obtained. Press and hold "Main" item in the front panel display menu until below information is displayed.

| Info	Setup	Main	Listen	Dirac
MCU	v1.25			
LCD	v1.12			
DSP	v1.08			
Video	v1.09			
BluOS/OSD	v2.16.10			
Serial				
IP	192.168.1.101			

Confirm Identity

NOTES

- *NAD is not responsible for any malfunction of the M17 and/or the internet connection due to communication errors or malfunctions associated with your broadband internet connection or other connected equipment. Contact your Internet Service Provider (ISP) for assistance or the service bureau of your other equipment.*
- *Contact your ISP for policies, charges, content restrictions, service limitations, bandwidth, repair and other related issues pertinent to internet connectivity.*

USB

- Connect the USB connector of the supplied BluOS/USB hub to this USB input. Ensure that the Wi-Fi dongle and Bluetooth USB Micro Adaptor are securely connected to any of the 4 ports of the USB hub. If wireless connectivity is poor, connect Wi-Fi dongle to the supplied extension cable and straighten out for better reception.
- Refer to the instructions on HOW TO SETUP WIRELESS CONNECTION in the BluOS SETUP menu below.

11 POWER

- AC mains power is supplied to M17.
- When the POWER switch is set to ON position, the M17 goes to standby mode as shown by the amber status condition of the front panel Power indicator. Press the front panel ⏻ (Standby) button or HTRM 2 remote control's [ON] button to switch ON the M17 from standby mode.
- If you intend not to use the M17 for long periods of time (such as when on vacation), switch off the POWER switch.
- With POWER switched off, neither the front panel ⏻ (Standby) button nor HTRM 2 remote control's [ON] button can activate the M17.

12 AC MAINS INPUT

- The M17 comes supplied with a separate detachable mains power cord. Before connecting the plug to the mains power source, ensure that it is firmly connected to the M17's AC Mains input socket first.
- Always disconnect the mains power plug from the mains power source first, before disconnecting the cable from the M17's AC Mains input socket.
- Connect only to the prescribed AC outlet, i.e., 120V 60 Hz (for 120V version models only) or 230V 50 Hz (for 230V version models only).

MASTER QUALITY AUTHENTICATED

Master Quality Authenticated (MQA) is a revolutionary end-to-end technology built into M17 that captures and delivers master quality audio. M17 includes a powerful decoder and audio renderer for the MQA system. This ensures that MQA-encoded audio files sound exactly like the source.

In the BluOS app, the MQA indicator displays green or blue to indicate that the unit is decoding and playing an MQA file. It displays green to indicate decoding and playback of a MQA file and denotes provenance to ensure that the sound is identical to that of the source material. It displays blue to indicate playback of MQA Studio file that has either been approved in the studio by the artist/ producer or has been verified by the copyright owner.
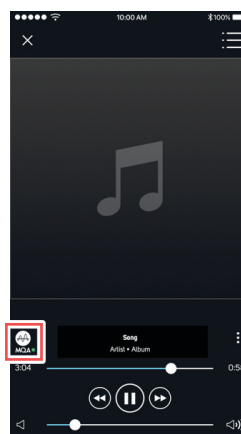
Green Indicator - Original MQA file
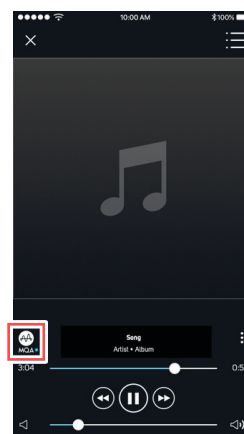
Blue Indicator - MQA Studio file

MQA® is a trademark of MQA Limited.

ABOUT THE ON-SCREEN DISPLAY (OSD)

The M17 employs a simple, self-explanatory system of on-screen display "menus" that will appear on the connected video monitor/TV. These are required during the setup process (and are useful in day-to-day operation), so be sure to connect the monitor/TV before proceeding with the setup.

DISPLAY THE OSD

Press [▶], [⟩], [MENU] or [ENTER] buttons of the HTRM 2 remote control or front panel to display the M17's Main Menu on your video monitor/TV. If the OSD does not appear, check your MONITOR OUT connections.

IMPORTANT

The OSD can only be viewed using a display device with minimum 1080p resolution.

NAVIGATING THE OSD AND MAKING CHANGES

To navigate through the OSD menu options, please do the following using the HTRM 2 or corresponding front panel buttons:

1   Press [▶] to select a menu item. Use [▲/▼] or in some cases, [ENTER], to move up or down the Menu selections. Repeatedly press [▶] to advance or go further into the sub-menu of desired menu item.
2   Use [▲/▼] to set or change the parameter value (setting) of a menu item.
3   Press [◀] to save the settings or changes done on the current menu or sub-menu. Pressing [◀] will also return the user to the previous menu or exit from a particular menu.

MAIN MENU
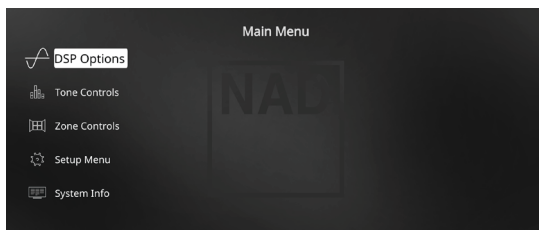
The Main Menu contains the menu options for "DSP Options", "Tone Controls", "Zone Controls", "System Info" and access to "Setup Menu".

Follow the guidelines about "DISPLAY THE OSD" and "NAVIGATING THE OSD AND MAKING CHANGES" to navigate through the menu options and their sub-menu selections.

NOTE

The individual configurations set forth at "DSP Options" and "Tone Controls" are carried over whenever they are enabled at A/V Presets setting. Please see the section "A/V PRESETS" for reference.

DSP OPTIONS
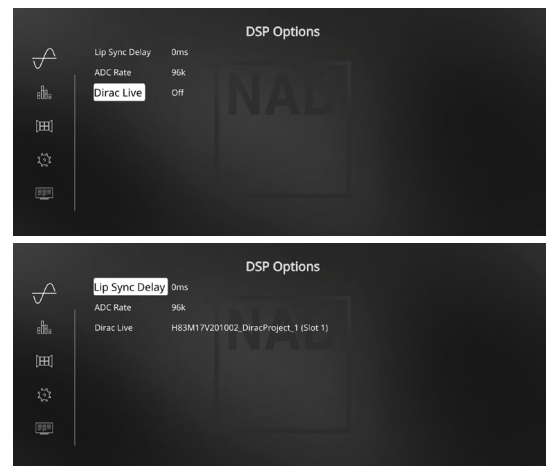
LIP SYNC DELAY

DSP Options has the feature "Lip Sync Delay" whose function is to match any delay that may occur in the picture relative to the audio.

By varying "Lip Sync Delay" from 0ms to 120ms, one can delay the audio output in order to synchronize it with the video image.

ADC (ANALOG-TO-DIGITAL CONVERTER) RATE

An analog audio input is converted to digital signal by making use of M17's superb circuitry called analog-to-digital converter (ADC).

Using this ADC Rate feature, the sampling rate of the resulting digital audio signal (available at the digital output ports) can be converted into three levels - 48K, 96K and 192K. Make sure that the associated equipment will be able to handle the applicable digital audio signal level.

DIRAC LIVE

With Dirac Live calibration successfully completed, the Dirac Live settings can be selected in this menu.

Off (No Calibration): Dirac Live option is greyed out and not accessible if Dirac Live is not calibrated.
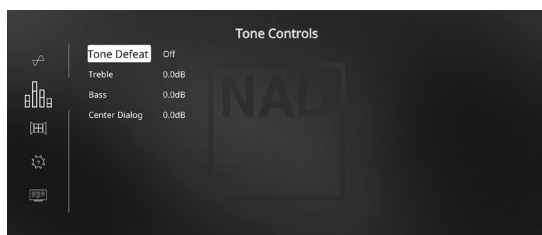
Slot 1-3: Select corresponding Slot where Dirac Live calibration setting is stored.

Off: Select "Off" if you do not want to activate or load any Dirac Live calibration setting.

OPERATION

USING THE M17 – MAIN MENU

TONE CONTROLS

The M17 has three Tone Control levels – Treble, Bass and Center Dialog. Bass and Treble controls only affect the low bass and high treble leaving the critical midrange frequencies free of coloration. The Center Dialog ("Dialog" in the front panel display) control boosts the "presence" of the midrange region improving intelligibility of speech.

These controls allow one to tweak on-the-fly, the frequency response of the source during playback. The control setting could be adjusted by navigating through the Tone Controls' OSD menu via a combination of [ENTER] and [◀/▶/▲/▼] keys. The same can be managed directly by pressing the front panel's "Tone" display and then slide "●" to adjust treble, bass or dialog level.

Maximum and minimum values for both Tone Control levels are ±10 dB. "Tone Defeat" gives one the choice of varying or completely bypassing the tone control section of the M17. If "Off" ("Tone Active" in the front panel display) is selected, the Tone Control circuits are active.

Select "On" ("Tone Defeat" in the front panel display) to bypass the Tone Controls effectively defeating the effect of the tone control circuits.

NOTE
Tone Controls options can be directly selected or changed using HTRM 2's [TONE] button with DEVICE SELECTOR set to AMP mode. Toggle [TONE] button to select "Treble", "Bass" or "Dialog" and then use the [▲/▼] to adjust their respective levels. Press [TONE] again to save the settings and at the same time move on to the next parameter or exit the parameter setting altogether.

ZONE CONTROLS
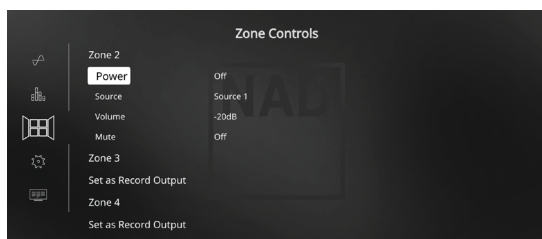
Depending on the settings made at the separate "Zone Setup" menu under the "Setup Menu" section discussion, the applicable Zone can be configured and managed via this "Zone Controls" window.

ZONE 2

POWER
On: Zone 2 is turned on or activated.
Off: Zone 2 is turned off or deactivated.

SOURCE
Enabled Analog Sources: With Zone 2 activated, Source input for Zone 2 can be assigned by selecting through the following input - All enabled analog Sources and Local.
Local: Select "Local" as your selected Zone 2's Source input if you wish to enjoy the same source as the main Zone and allow simultaneous listening, but with full separate volume levels.

VOLUME
"Volume" refers to the adjustable secondary Zone 2 Volume level that can be increased or decreased using the ▲/▼ buttons of the HTRM 2. This is applicable only if the Zone 2 Volume setting in the separate "Zone Setup" menu under "Setup Menu" is set to "Variable". **If set to "Fixed", this "Volume" item at the Zone Controls section will not be available.**

MUTE
On/Off: Audio is temporarily turned off or restored.

NOTE
The ZR 7 remote control will only control Zone 2 applications. Zone 3 and Zone 4 could be configured and managed at the appropriate Zone OSD menu using the corresponding keys on the HTRM 2 remote control.

ZONE 3/ZONE 4
Set as Record Output: ZONE 3/ZONE 4 is designated as "Set as Record Output" if the "Mode" setting is "Record" at the separate "Zone (3/4) Setup" menu under "Setup Menu".

ZONE 3/ZONE 4 is used as a regular AUDIO 3 OUT/AUDIO 4 OUT port. Audio present at AUDIO 3 OUT or AUDIO 4 OUT jack is determined by the current Main Source.   There will be no output at AUDIO 3 OUT if the current Source is analog Source 3. Likewise, there will be no output at AUDIO 4 OUT if the current Source is analog Source 4. This prevents feedback through the recording component thereby preventing possible damage to your speakers.

ZONE 3/ZONE 4: For ZONE 3/ZONE 4 to become available and configurable at the "Zone Controls" window, their corresponding "Mode" in the "Zone (3/4) Setup" menu under the "Setup Menu" section should be set to "Zone".   ZONE 2/ZONE 3 can now be configured just like ZONE 2 as described above.

IMPORTANT NOTICE
*   *Only analog audio connected through a Source's analog audio input port can be associated as audio source for Zone 2, Zone 3 or Zone 4.*
*   *Digital audio sources connected via HDMI, digital optical and digital coaxial input ports cannot be down mixed and used as Zone 2, Zone 3 or Zone 4 audio source.*
*   *BluOS audio is also not applicable as a Zone 2, Zone 3 or Zone 4 audio source.*
*   *Ensure that the associated Source's Digital Audio setting is set to "Off" or no actual digital source is connected.*

SYSTEM INFO
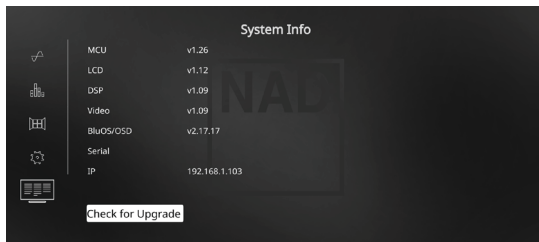
"System Info" displays information about current firmware versions of MCU, LCD, DSP, Video and BluOS/ OSD as well the unit's serial number and IP address. The System Information shown above is for reference only.

CHECK FOR UPGRADE

Your M17 is updated to latest firmware versions if "Check for Upgrade" is shown.

SYSTEM INFO (UPGRADE AVAILABLE)

Your M17 needs to be upgraded if the "System Info" item in the Main Menu changes to "System Info (Upgrade Available).
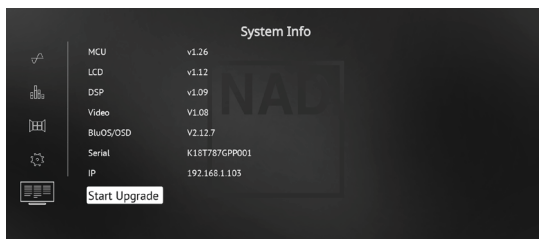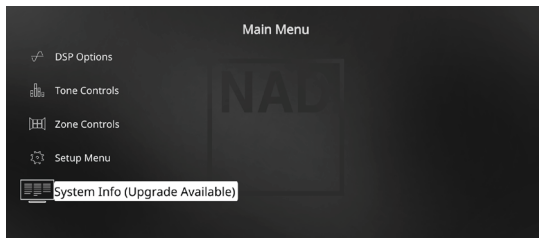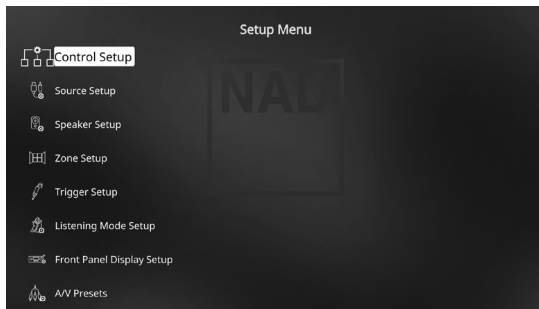

START UPGRADE

With your M17 connected to internet, select "Start Upgrade" and Internet Update will proceed automatically.

Refer also to enclosed INTERNET UPDATE GUIDELINES for further guidelines.

OPERATION

## USING THE M17 – SETUP MENU

SETUP MENU

The Setup Menu allows one to customize the operation of the M17 to the ancillary equipment used in one's specific AV system. Unless your system exactly matches the factory defaults as shown in the accompanying Quick Start Guide, you will need to use the setup menu to configure the inputs of the M17.

At Setup Menu, the following are configurable:
- Control Setup
- Source Setup
- Speaker Setup
- Zone Setup
- Trigger Setup
- Listening Mode Setup
- Front Panel Display Setup
- A/V Presets
- BluOS Setup
- Select Language

To access and navigate through Setup Menu and its sub-menu options, follow the directions indicated from above sections about "DISPLAY THE OSD" and "NAVIGATING THE OSD AND MAKING CHANGES".

CONTROL SETUP
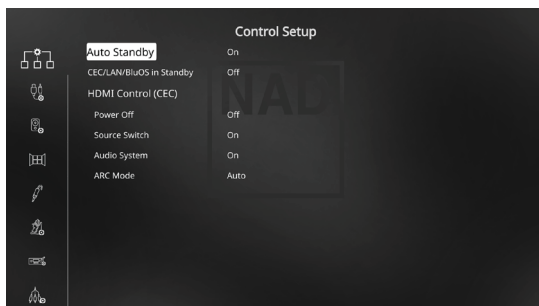
The M17 supports HDMI Control (CEC) and Audio Return Channel (ARC) functions. Both functions are possible if external devices that also support both features are interconnected with the M17 via HDMI connection.

AUTO STANDBY
The M17 can be setup to automatically go to standby mode if there is no user interface interaction within 30 minutes.
On: M17 will go to standby mode automatically in the absence of any user interface interaction within 30 minutes.
Off: M17 remains active even though no user interface interaction is detected.

CEC/LAN/BLUOS IN STANDBY
Indicates the status of CEC, LAN and BluOS activity while the unit is in standby mode.

On
- Enable CEC feature. Audio and video will continuously stream from a CEC-enabled HDMI source to a CEC-enabled TV (with both devices connected via M17).
- LAN and BluOS connections continue to be active.

Off
- M17 will not pass through any CEC message. Audio and video will not be streamed from a CEC-enabled HDMI source to a CEC- enabled TV (with both devices connected via M17).
- LAN and BluOS connections are idle or inactive.

HDMI CONTROL (CEC)
Consumer Electronics Control (CEC) is a set of commands that utilizes HDMI's two- way communication to allow for single remote control of any CEC-enabled devices connected with HDMI. A CEC command will trigger the necessary commands over HDMI for an entire system to auto-configure itself to respond to the command.

When devices that support HDMI Control (CEC) are connected, the following modes of operation can be executed via the M17 or the external device using any of the device's remote control.
Off: Applies to all CEC options below. At "Off" setting, particular CEC feature is defeated.

> **Power Off:** At "On" setting, the M17 will automatically go to standby mode if it receives a CEC standby command. On the other hand, if the M17 receives a CEC power up command, the M17 will correspondingly switch ON from standby mode.
> **Source Switch:** At "On" setting, the M17 will automatically switch sources if another CEC device requests a Source change.
> For example, if PLAY is pressed on a BD Player with CEC, the M17 and TV with CEC will automatically switch to their respective input connections – the M17 switching to the HDMI input where the BD Player is connected while the TV will switch to its input where the M17's HDMI OUT is connected. This completes the auto- configuration – the BD Player is automatically played back using the M17 and TV.
> **Audio System:** At "On" setting, the M17 will broadcast a CEC message indicating it is an active audio system. A CEC compatible TV will usually mute its audio output when this happens. When this option is enabled, the M17 will also respond to CEC volume and mute commands. For example, a CEC TV may forward the volume commands from its remote to the M17.

ARC Mode: Audio Return Channel (ARC) enables an ARC-enabled TV to send audio data "upstream" to M17.

This option has three choices: Off, Auto or Source Setup.

Auto: When set to Auto, the M17 will automatically attempt an ARC audio connection to the TV whenever the TV announces over CEC that it has become the active source. If an ARC connection can be established, the M17 will output the ARC audio signal no matter what source is selected on the M17 and will show "HDMI ARC" on the front panel display. The Auto option tends to work best when all your devices support CEC and the Source Switch option is set to "On".

Source Setup: When set to Source Setup, you can select "ARC" for the digital audio input in the source setup screen. When you select a source on the M17 which is set for ARC, the M17 will attempt to initiate an ARC connection with the TV. When using this option, you would probably also want to make sure Source Switch is off otherwise other CEC devices may keep changing the M17 source when you want it to remain on the ARC source.

IMPORTANT NOTES

- *"Audio System" must be set to "On" for "ARC Mode" to be configurable. Otherwise, "ARC Mode" will remain "Off".*
- *"CEC/LAN/BluOS in Standby" must be set to "On" for audio and video to continuously stream from a CEC-enabled HDMI source to a CEC-enabled TV (with both devices connected via M17).*

SOURCE SETUP
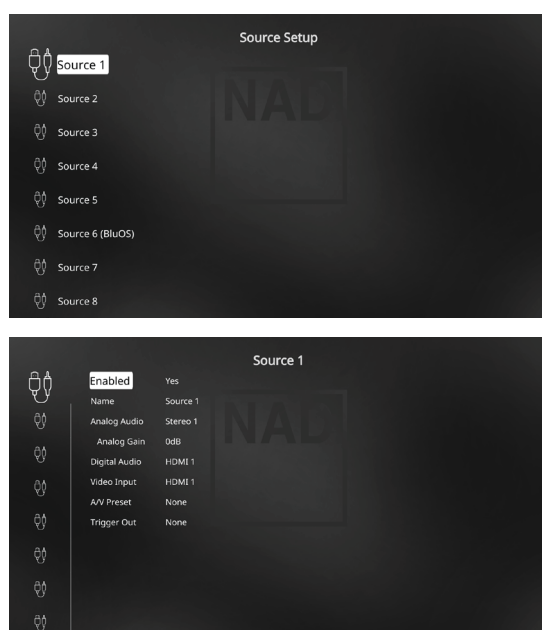
The Source Setup menu makes it possible to set, allocate or change the Sources settings.

The M17 Sources are all configurable. Each Source can be configured with respect to the following settings.

ENABLED

One can enable/disable a Source via this option. This is particularly useful if only few Sources are used and one directly selects the Source from the front panel, bypassing unused sources.

Yes/No: Select "Yes" to enable the particular Source or "No" to disable the Source.

NAME

A new Name maybe assigned to a Source label. For example, if your BD player is attached to "Source 1", it is possible to rename "Source 1" to "BD Player".

In order to rename the Source label, scroll to the "Name" parameter. Press [▶] to go to the first character. Then, press [▲/▼] to pick through the alphanumeric selections.

Press [▶] to move to the next character and at the same time save the changes done on the current character. The name can be as long as twelve characters.

The new Name will be shown in the front panel display as well as on the OSD.

ANALOG AUDIO

All available analog Sources can be specifically assigned to any of the main Sources.

Active analog Source: Use [▲/▼] to select and assign an active Source input to a particular main Source.

Off: No incoming analog audio signal is selected by the particular Source.

NOTE

An incoming digital signal present at the assigned digital input will always take precedence over the assigned analog audio input if both are present. To maintain the analog audio input for the particular Source, select "Off" at the "Digital Audio" setting of the same "Source" menu.

ANALOG GAIN

Gain adjustment allows all sources to play back at the same volume level so you don't need to adjust the volume every time a new source is selected. It is generally preferable to reduce the level of the loudest source rather than making louder the softer sources.

Scroll to "Analog Gain", press [▶] and then [▲/▼] to step through the desired level from -12dB to 12dB.

DIGITAL AUDIO

To take advantage of the M17's high performance surround and digital audio circuitry, it is advisable that its Digital Audio inputs are selected. There are various types of Digital Audio input for the M17. These are HDMI, BluOS, Optical and Coaxial digital inputs. Select "Off" if it is intended not to assign any digital audio input to a particular Source.

The following are the sets of assignable Digital Audio input.
HDMI ➜ HDMI 1, HDMI 2, HDMI 3, HDMI 4, HDMI 5
Optical ➜ Optical 1, Optical 2
Coaxial ➜ Coaxial 1, Coaxial 2
BluOS

NOTE

An incoming digital signal present at the assigned digital input will always take precedence over the assigned analog audio input if both are present. To maintain the analog audio input for the particular Source, select "Off" at the "Digital Audio" setting of the same "Source" menu.

OPERATION

USING THE M17 – SETUP MENU

VIDEO INPUT

All available HDMI sources can be assigned as video input to a particular Source. Select "Off" if it is intended not to assign any video input to a particular Source.

HDMI ➜ HDMI 1, HDMI 2, HDMI 3, HDMI 4, HDMI 5
Previous ➜ Display or retain preceding video.

A/V PRESET

A particular Source can be assigned a stored Preset. The parameters set up in the selected Preset number will be adopted into the particular Source it is assigned (Please refer to the separate section on "A/V Presets" for further understanding of Preset settings).

If it is desired not to assign the particular Source a Preset setting, select "None".

TRIGGER OUT

The Trigger Out for a particular Source is dependent upon the configurations done in a separate menu on Trigger Setup (See "Trigger Setup" below). If "Source Setup" is assigned to all three Trigger output (Trigger Out 1-3) in the separate "Trigger Setup" menu window, a particular Source can have the following Trigger Out combinations

Trigger Out: Trigger1 ➜ Trigger2 ➜ Trigger 1+2 ➜ Trigger 3 ➜ Trigger 1+3 ➜ Trigger 2+3 ➜ Trigger1+ 2+3

Above combinations are dependent upon the assignment of "Source Setup" for all Trigger 1 Out, Trigger 2 Out or Trigger 3 Out settings at the "Trigger Setup" menu. If only Trigger 1 Out is set "Source Setup", only "Trigger 1" and "None" are available options at Trigger Out setting for a particular Source.

None: Particular Source is not assigned any Trigger Out option.

IMPORTANT

For "Trigger Out" to be assignable at "Source Setup" menu, make sure to carry out following.

*   In the separate "Trigger Setup" menu, assign Trigger 1 Out, Trigger 2 Out or Trigger 3 Out to "Source Setup."
*   "Trigger Out" will not be configurable and remain at "None" setting if at the separate "Trigger Setup" menu, none of the Trigger 1 Out, Trigger 2 Out or Trigger 3 Out settings is allocated to "Source Setup."

SPEAKER SETUP
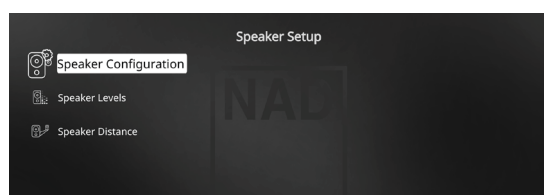
After connecting all ancillary sources and other combinations, the Speaker Setup menu will guide you on how to manage and setup your speakers in order to achieve optimum sound acoustics in your listening environment. The following are the Speaker Setup Menu sections.

IMPORTANT NOTICE

The M17 is an AV Surround Sound Preamplifier and therefore has no speakers. The mention of "Speaker(s)" in this manual refers to the speakers of your external amplifier as interfaced with the M17.

SPEAKER CONFIGURATION
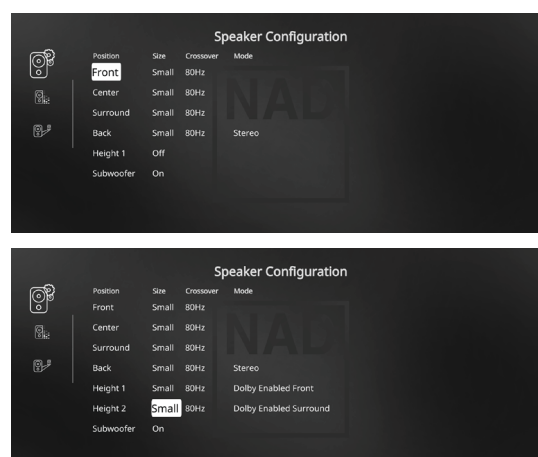
Every surround-sound system requires "bass-management" to direct low-frequency content from any or all channels to the speakers best able to reproduce it. For this function to operate correctly, it is important that you correctly identify your speakers' capabilities. We use the terms "Small" and "Large" (and "Off") but note that physical size may be irrelevant.

*   A "Small" speaker is any model, regardless of physical size, that lacks significant deep-bass response, that is, below about 200 Hz.
*   A "Large" speaker is any full-range model; that is, one with deep-bass response
*   An "Off" speaker is one that is not present in your system. For example, you might not have any surround-back speakers installed; in that case, you would set the "Back" setup item to "Off".
*   For "Height" speakers, selecting "Off" option for "Height 1" will automatically cut off both Height 1 and Height 2 Audio output.

The Speaker Configuration is "global"; that is, it remains in force with all inputs and in all listening modes. However, speaker settings are part of the M17's Preset system. Consequently, multiple speaker settings can be stored for easy recall as different types of recordings or listening modes require.

Speaker Configuration can be managed and adjusted by pressing a combination of [▶] and then [▲/▼] keys. Set "Front", "Center" and "Surround" to "Large", "Small" or "Off" as your subsystem's speakers require.

Set "Back" to either "Stereo" or "Mono" as per speaker availability. Set "Subwoofer" to "On" or "Off, "selecting "On" only if you have a subwoofer connected to the M17's SUBW1 or SUBW2 output jack. If "Subwoofer" is set to "Off", "Front" speakers will automatically be set to "Large".

HEIGHT 1/HEIGHT 2

"Height 1" and "Height 2" AUDIO PRE-OUT can be connected to the audio input of an external power amplifier hooked up with up to 4 Height speakers.

Height1/Height 2 settings must be set to "On" at the "Speaker Configuration" menu to activate the additional Height speakers and be configurable.

ENHANCED BASS
When the subwoofer is set to ON and "Front" is set to "Large", Enhanced Bass becomes available. Normally, with speakers set to "Large" the subwoofer is not active.

The Enhanced Bass option allows full range operation of the speakers with the additional bass contribution of the subwoofer. This feature is particularly useful when one wants to experience maximum bass output. Please note that due to acoustic cancellation effects, the bass response may be uneven when using this setting

You can set Subwoofer to "On" even with "Large" front speakers, in which case bass content from any channels set to "Small" will be routed to both the subwoofer and to the front speakers; LFE-channel signal will pass only to the sub. In most subwoofer-equipped systems, setting front speakers to "Small" is usually the better option.

All the speakers' low frequency content can be directly adjusted within the range 40Hz to 200Hz.

NOTE
The configurations set forth at "Speaker Setup" are carried over whenever it is enabled during A/V Presets setting. Please see also the section "A/V Presets" for reference.

SPEAKER LEVELS
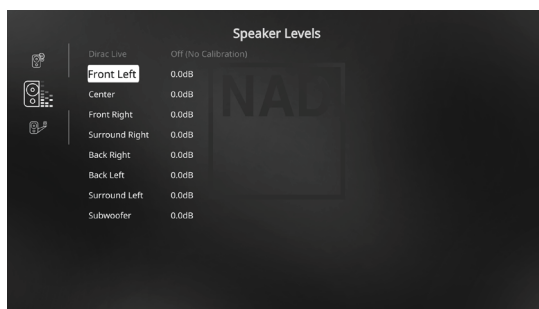
Adjusting the relative balance of your system's loudspeakers ensures that surround-sound recordings, whether music or film, will present the balance of effects, music, and dialog that the artists intended. Additionally, if your system incorporates a subwoofer, it establishes a correct relationship between the volume of the subwoofer and the other speakers, and thus of low-frequencies (bass) to other sonic elements.

USING AN SPL METER
It is quite practical to perform the M17 level setup routines "by ear," and careful work will produce acceptably accurate results. However, the use of an inexpensive sound-pressure level (SPL) meter, such as Radio Shack part number 33-2050, makes this task easier, more accurate and more repeatable. Ownership of such a meter could prove a valuable audio tool.

The SPL meter should be placed at the primary listening position, at approximately the height of the seated listener's head. A tripod is helpful but with a little duct tape almost anything - a pole lamp, music-stand, or ladder-backed chair, for example - can do as well. Just be sure that no large acoustically reflective surfaces obstruct or are near the microphone element.

Orient the meter with its microphone (usually at one end) pointing straight up toward the ceiling (not toward the speakers) and ensure that "C" weighting scale is selected. Set the meter to display 75 dB SPL. On Radio Shack meters, this necessitates either setting the meter to its 80 dB range and taking your readings at the -5 point or selecting the 70 dB range and reading at the +5 point.

SETTING SPEAKER LEVELS IN TEST MODE
While at "Speaker Levels" menu, press the HTRM 2 remote's [TEST] key activating the M17's Speaker Levels balancing test signal. You will hear a "surf" sound as you step through your speakers ("Test Mode Active" is shown beside the Speaker Setup heading), beginning with the Front Left. If you do not hear the test signal, check your speaker connections or your "Speaker Configuration" OSD menu settings.

Use the remote's [▲/▼] keys to adjust the loudness of the noise output from the currently playing channel to the required level (it's usually simplest to begin with the Front Left). As you cycle the test signal around the speakers, the OSD will highlight the currently playing channel. The "level offset" reading on the right will change by 0.5dB increments; ±12 dB adjustment is available. Press [ENTER] to adjust the next speaker.

NOTE
If you are balancing levels "by ear", choose one speaker - usually the center - as a reference and adjust each of the others in turn to "sound as loud" as the reference. Be sure that you remain in the primary listening position while balancing all channels.

To produce the same SPL meter reading (or subjective loudness), use the remote's [▲/▼] keys to adjust each speaker.

NOTES
- *All speakers must be in their final locations before level-setting.*
- *Your subwoofer (if any) should be set with its integral crossover defeated, or if undefeatable, set to its highest-possible frequency if you are using the M17's Subwoofer output. Final subwoofer-level adjustment "by-ear," using music and film sound material, is frequently useful.*
- *Due to the effects of room acoustics, matched-pair speakers (front; surround; back) will not always calibrate to exactly the same level offset readings.*

You can exit "Test" mode at any time by pressing [◀] key, bringing you back to "Speaker Setup" menu. You can also press the [TEST] key to discontinue the "Test" mode.
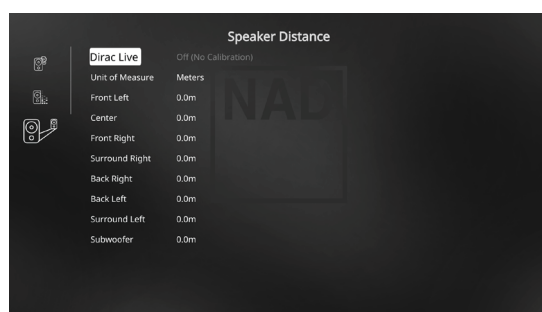
If Dirac Live calibration is completed and selected, the Dirac Speakers Level settings will be shown.
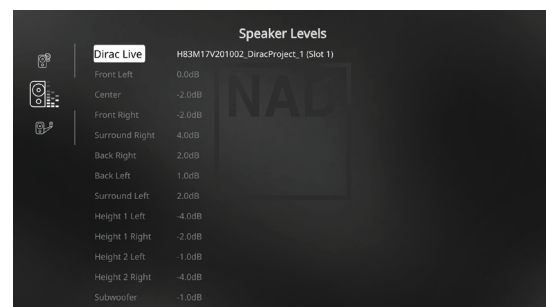
OPERATION

USING THE M17 – SETUP MENU

SPEAKER DISTANCE

Your system's speaker distance settings are a subtle but important refinement of your setup. Informing the M17 of the loudspeaker-to-listener dimensions of each speaker automatically imposes the correct delays, optimizing imaging, intelligibility and surround-sound ambience. Enter your dimensions with precision within about 1 foot (0.3m).

SETTING SPEAKER DISTANCE
While at "Speaker Distance" menu, use the [▲/▼] keys to individually set the distance measured from your principal listening position to the front surface of the corresponding loudspeaker. Distance can be set up to 30 feet or 9.1 meters. Distance can be displayed as feet or meters selectable at the "Unit of Measure" item.

If Dirac Live calibration is completed and selected, the Dirac Speakers Distance settings will be shown.
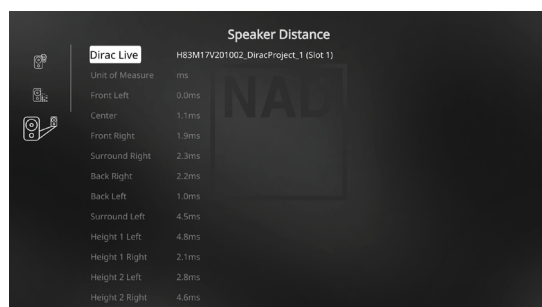
DIRAC LIVE
The proprietary Dirac Live is integrated with your M17. Dirac Live® is a patented room correction technology that not only corrects the frequency response, but also the impulse response of a room's loudspeakers. Dirac Live provides true impulse response correction over a large listening area, improving the depth, positioning and distinction of individual voices and instruments. Using multiple measurement and mixed phase correction, Dirac Live helps create a natural, realistic and transparent sound with tighter bass and reduced room modes, in a way previously not possible.

Initiate Dirac Live by following below Setup Requirements.

M17
• Update your M17 to the latest firmware.
• Speaker Configuration must match actual speaker setup – turn off speakers that are not available.
• Both your computer and M17 must be connected to the same network.

MICROPHONE
• The supplied measurement microphone can be connected to either the MIC or USB input of your computer or the USB input of the M17.
• If the measurement microphone will be connected to the USB input of your computer or the M17, ensure that the measurement microphone, phone jack adapter and USB Mic adapter are all connected together. The USB Mic adapter is not necessary if the measurement microphone will be connected to the MIC input of your computer,
• Minimize external noise such as talking, opening/closing of doors or windows and playback of sound during the measurement.
• Use a microphone stand to firmly place the microphone in the indicated measurement positions.

COMPUTER (WINDOWS, macOS)
• Both your computer and M17 must be connected to the same network.
• Any active firewalls should allow HTTP (normal WWW access).
• Turn off any computer programs that may make any noise.
• Download the Dirac Live Calibration Tool™ installer.

Run the Dirac Live Calibration Tool™. Follow on-screen instructions. Refer also to the HELP window for more detailed instructions.

View and follow simulated Dirac Live Calibration at:
nadelectronics.com/dirac-live

For further information about Dirac Live Room Correction technology, visit:
www.dirac.com/live-home-professional-audio-info

ADJUSTING THE VOLUME
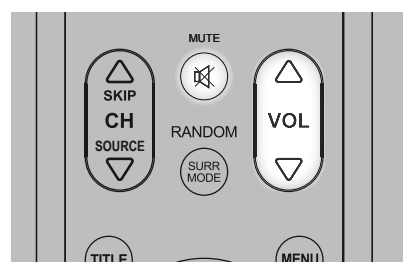
In addition to the Volume knob, use the HTRM 2's VOL [▲/▼] to adjust the "master volume" of the M17 raising or lowering the channels altogether. A momentary keypress will change the master volume by 0.5dB increments. If you hold down VOL [▲/▼], the master-volume change will "run-on" until the key is released.

Since recordings vary considerably in overall average level, there is no imperative to listen at any particular master-volume setting. A setting of -20dB may sound "as loud" from one CD or DVD as -10dB does from another.

The M17 will power-up from Standby mode at whatever master volume setting was last used; however, if the prior setting was greater than -20dB, the M17 will power up at -20dB. This prevents inadvertently beginning a session at excessive volume.

MUTING THE SOUND
Use the HTRM 2's [MUTE] key to silence all channels completely. Muting is always available regardless of the source or listening mode selections.

NOTES
• *Changing input or listening-mode selections does not release muting.*
• *Adjusting the volume level via the HTRM 2 or the front panel volume knob will automatically release the mute function.*

ADJUSTING CHANNEL LEVELS 'ON THE FLY'

CHANNEL VOLUME

SURR   TXT   SUB
        CENT
        TV
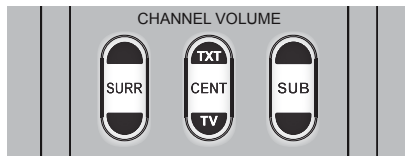
You can make changes to the relative levels of center, surround and subwoofer outputs without having to go into the "Speaker Levels" menu. This is very convenient in circumstances like increasing (or tone down) a film's dialog level by raising (lowering) the center channel or reducing excessive deep bass (or enhance deep bass) by lowering (raising) the subwoofer level.

Use the HTRM 2's "SURR","CENT" and "SUB" keys for direct-access level adjustment of these channels over a range of ±6 dB.

The surround back channels (if any) adjust in lockstep with the surround channels.
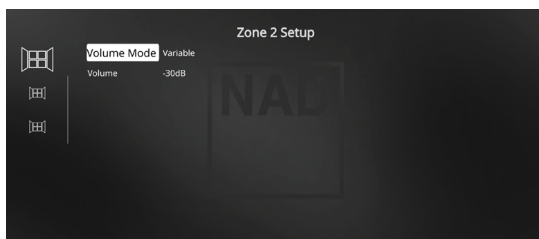
ZONE SETUP

Zone Setup

Zone 2 Setup
Zone 3 Setup
Zone 4 Setup
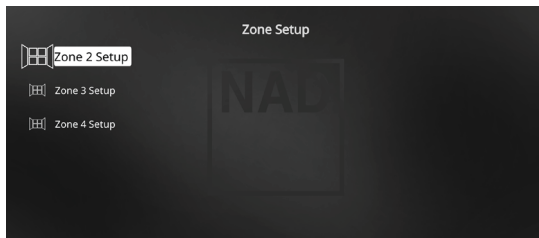
The Zone feature allows one to simultaneously experience in different zones of the house multiple sound sources from all enabled analog Sources.

The M17 has three configurable Zones – Zone 2, Zone 3 and Zone 4.

ZONE 2 SETUP

Zone 2 Setup

Volume Mode   Variable
Volume   -30dB

VOLUME MODE
Zone 2 has Fixed and Variable volume control modes.
   Variable: Zone 2 Volume level can be adjusted using HTRM 2's [▲/▼] or directly via ZR 7's [VOL ∧/∨].
   Fixed: Zone 2 Volume is set to a preset dB level using HTRM 2's [▲/▼] and thereafter Zone 2's volume level can be varied via the volume control of the separate amplifier it is fed into.

See discussion also about "Zone Controls" at the Main Menu.

ZONE 3 SETUP/ZONE 4 SETUP

Zone 3 Setup

Mode Record

Zone 4 Setup

Mode   Zone
Volume Mode   Variable
Volume   -20dB
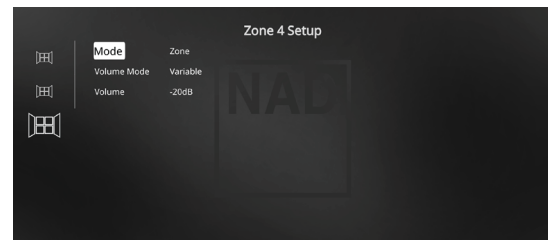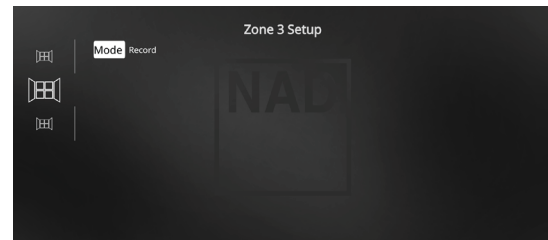
MODE
Zone 3 and Zone 4 can be configured into two modes - Record and Zone.
   Record: ZONE 3 OUT/ZONE 4 OUT is used as a regular AUDIO 3 OUT/ AUDIO 4 OUT ports. Audio present at AUDIO 3 OUT or AUDIO 4 OUT jack is determined by the current Main Source.   There will be no output at AUDIO 3 OUT if the current Source is analog Source 3. Likewise, there will be no output at AUDIO 4 OUT if the current Source is analog Source 4. This prevents feedback through the recording component thereby preventing possible damage to your speakers.
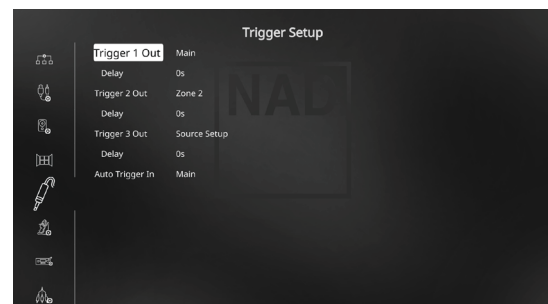   **Zone:** ZONE 3/ZONE 4 becomes available and configurable at the "Zone Controls" window of the Main Menu.   Zone 3 and Zone 4 can be configured the same way as that of Zone 2 Setup menu above.

See discussion also about "Zone Controls" at the Main Menu.

NOTE
The ZR 7 remote control will only control Zone 2 applications.

TRIGGER SETUP

Trigger Setup

Trigger 1 Out   Main
   Delay   0s
Trigger 2 Out   Zone 2
   Delay   0s
Trigger 3 Out   Source Setup
   Delay   0s
Auto Trigger In Main

The M17 features three configurable +12V DC Trigger Output that can be used to activate a component or system it is fed into. A Trigger Input can also be configured to turn ON/OFF a section of M17.

OPERATION

USING THE M17 – SETUP MENU

TRIGGER 1-2-3 OUT

Triggers are low voltage signals used to turn on/off other compatible devices. The M17's three +12V DC Trigger Output ports (Trigger 1 Out, Trigger 2 Out and Trigger 3 Out) are dependent upon the mode they are associated with. Below are the options the +12V DC Trigger Output can be configured.

Main: +12V DC is available from the assigned Trigger Out when M17 is at powered state.

Zone 2, Zone 3, Zone 4, Zone 2, 3 and 4, Main+Zone 2, Main+Zone 3, Main+Zone 4, Main+Zone 2, 3 and 4: When the applicable Zone configuration is at powered state, +12V DC is available from the assigned Trigger Out.

Source Setup: If Trigger Out is set to "Source Setup", +12V DC is available from the configured Trigger Out whenever the particularly assigned Source is selected. Please see also separate discussion about "Trigger Out" under the Source Setup section.

DELAY

The availability of +12V DC at Trigger Out can be regulated. If it is desired that +12V DC is available without delay the moment Trigger Out is linked to its assigned setting, set Delay to 0s. Otherwise, one can select through a delay time of 1s to 15s.

AUTO TRIGGER IN

Auto Trigger IN allows external system controllers to toggle the associated section of the M17 from standby to operating mode and vice versa. Ensure that "+12V TRIGGER IN (OFF/AUTO)" switch is set to "AUTO" for AUTO TRIGGER IN to be functional.

Main: M17 goes to operating mode with +12V DC applied at Trigger IN and switches to standby mode with 0V applied.

Zone 2, Zone 3* or Zone 4*: Applicable Zone goes to operating mode with +12V DC applied at Trigger IN and switches to standby mode with 0V applied.

All: Main, Zone 2, Zone 3 and Zone 4 as described above will all go to operating mode with +12V DC applied at Trigger IN and switches to standby mode with 0V applied.

* - The "Mode" setting in the Zone 3 or Zone 4 Setup menu must set to "Zone".

Refer also to the item about "+12V TRIGGER OUT1/OUT2/OUT3, +12V TRIGGER IN" from the IDENTIFICATION OF CONTROLS - REAR PANEL discussion.

WARNING

If "Auto Trigger In" at Trigger Setup menu is assigned to "Main" or "All" and the +12V TRIGGER IN switch is set to "AUTO" mode, the ⏻ (Standby) button in the front panel as well as the corresponding ON/OFF function keys in the HTRM 2 remote control will be disabled effectively handling this function to the device where Auto Trigger IN is connected. Slide to "OFF" the +12V TRIGGER IN switch to maintain normal power ON/OFF function procedures.
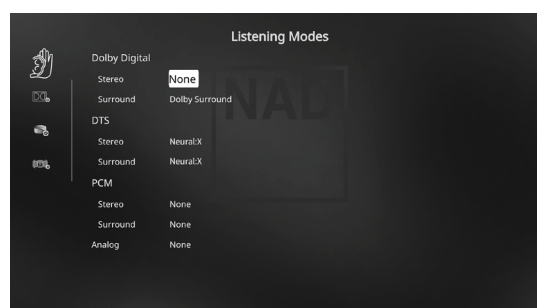
LISTENING MODE SETUP
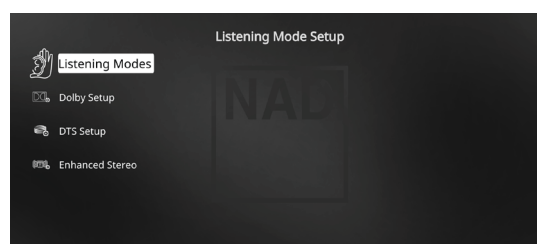
The M17 has various listening mode options and is mostly configurable. These are provided to reproduce a variety of sound effects depending upon the content of the source to be played.

LISTENING MODES

The audio format as detected by the selected Source can be automatically configured and processed through the following options:

DOLBY DIGITAL

Dolby Digital is the multi-channel digital signal format developed in the Dolby laboratories. Discs bearing the Dolby Digital (double-D symbol) logo were recorded with up to 5.1 channels of digital signals, reproducing a much better sound quality, with dynamic and spatial sound sensations that are much better than in the previous Dolby Surround.

A Dolby Digital audio input can be configured relative to its format as follows

Stereo: If the detected audio is of Dolby stereo format, you can default it to either Dolby Surround or None.

Surround: If the detected audio is of Dolby Surround format, you can default it to one of the following settings - Dolby Surround, Stereo Downmix or None.

None: If "None" is selected, the Dolby Digital signal will be defaulted to its native format. With this setting, "Direct" becomes available as a Listening Mode option.

DTS

The Digital Theater System Digital Surround (simply called DTS) is a multi-channel digital signal format that can process higher data rates than with Dolby Digital. Although both Dolby Digital and DTS are 5.1 channel media formats, discs bearing the "DTS" symbol are thought to provide better sound quality due to the lower audio compression required. It also offers a broader dynamic, producing magnificent sound quality.

A DTS audio input can be configured relative to its format as follows

Stereo: If the detected audio is of DTS format, you can default it to one of the following settings - Neural:X or None.

Surround: If the detected audio is of DTS Surround format, you can default it to one of the following settings - Neural:X, Stereo Downmix or None.

None: If "None" is selected, the DTS signal will be defaulted to its native format. With this setting, "Direct" becomes available as a Listening Mode option.

PCM

PCM (Pulse Code Modulation) is the digital representation of a standard audio signal converted with little or no compression. If "None" is selected, the audio signal will be defaulted to its native format.

Stereo: The detected stereo audio format will be configured into one of the following options - Neural:X, Dolby Surround, EARS, Enhanced Stereo or None.

Surround: The detected surround audio format will be configured into one of the following options - Neural:X, Dolby Surround, Stereo Downmix or None.

ANALOG

If the audio input is an analog signal, the following are the surround modes the input can be defaulted - Neural:X, Dolby Surround, EARS, Enhanced Stereo, Analog Bypass or None.

LISTENING MODES

The M17 offers distinct listening modes, tailored for different types of recording or program material. With a two-channel (Stereo) source, the following listening modes can be selected.

STEREO

Output is directed to the front left/right channels. Low frequencies are directed to the subwoofer if one is present in the Speaker settings. Select "Stereo" when you wish to listen to a stereo (or monaural) production, such as music CD, without surround enhancement. Stereo recordings whether in PCM/digital or analog form and whether surround-encoded or not encoded, are reproduced as recorded. Multi-channel digital recordings (Dolby Digital and DTS) are reproduced in "Stereo Downmix" mode via the front left/right channels only as Lt/Rt (left/right-total) signals.

DIRECT

The analog or digital sources are automatically played in their native formats. All the source's audio channels are reproduced directly. This mode recreates the original sound most faithfully thereby producing outstandingly high quality audio. Note that the source must be at playback mode for "Direct" to become available as a listening mode option. In order to automatically playback your source in their native format, implement the following settings.

1   Go to "Listening Mode Setup" under "Setup Menu". At the "Listening Modes" menu, set all Dolby, DTS, PCM and Analog settings to "None". With this setup, your source will be played back directly at its native format.

2   Next, go to "A/V Presets" under "Setup Menu". At "A/V Presets" menu, set "Listening Mode Setup" item to "Yes" and then save this setting among other options, say to "Preset 1", by selecting "Save Current Setup to Preset".

3   Now, you can associate "Preset 1" to any of the "Source" settings. For example, at Source 1 setting under "Source Setup", scroll down to "A/V Preset" item and set it to "Preset 1". Thus whenever Source 1 is selected, the associated source will always be directly played back at its native audio format.

EARS

Two-channel recordings, whether stereo or surround-encoded, are reproduced with proprietary NAD surround processing with signal output to the front left/right, center and discrete left/right surround channels, plus subwoofer (assuming these are present in the current "Speaker Configuration"). EARS does not employ the surround back speakers (if any).

EARS extracts the natural ambience present in nearly all well-produced stereo recordings. It does not synthesize any ambience or other sonic elements and thus remains truer to the sound of the original musical performance than most other music-surround options.

Select EARS for listening to stereo music recordings and broadcasts. EARS produces a subtle but highly natural and believable ambience from nearly all "natural-acoustic" stereo recordings. Typically, these include classical, jazz, and folk genres as well as numerous examples from others.

Its virtues include realistic, stable "front-stage" sonic imaging and spacious but unexaggerated ambient "virtual acoustics" that remain faithful to the original recording.

ENHANCED STEREO

All recordings are reproduced in stereo via the maximum speaker complement configured in the current "Speaker Configuration". Enhanced stereo can be useful for maximum volume from all channels or for multi-speaker background music (cocktail party) listening. For this mode, Front, Center, Surround, Back and activated Height 1/2 speakers can be turned ON/OFF as desired.

DOLBY ATMOS

Dolby Atmos redefines your entertainment experience. Overhead dimension is added by creating a full audio atmosphere and realistically depicting objects moving overhead. Sound from a helicopter, a car screeching around a corner or a melodic bird call can be precisely placed and moved anywhere in your room, including overhead, to flow above and around you in three-dimensional space. Dolby Atmos also renders everything from dialogue to quiet scenes to whirlwind action with astonishing clarity, richness, detail and depth.

DTS:X

DTS:X places sound where it would occur naturally in space, creating the most lifelike, multi-dimensional audio experience ever. DTS:X technology adapts to the viewing environment, allowing for a flexible speaker configuration that best fits the viewing space. Through the use of object-based audio, DTS:X technology is able to scale immersive soundtrack presentations across a wide range of playback systems, from efficient to extravagant, while staying true to the content creator's vision.

Neural:X

Neural:X™ is the latest spatial remapping engine from DTS, enabling an immersive, multidimensional experience from legacy content. It is included inside of DTS:X to provide upmix of Neural:X-encoded and non-encoded (PCM) data. With DTS Neural:X, stereo, 5.1 or 7.1 content can be upmixed to take full advantage of all speakers in your surround sound system.

OPERATION

USING THE M17 – SETUP MENU

DOLBY SETUP
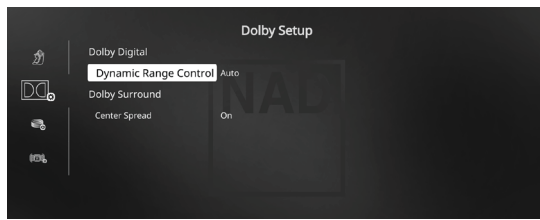
Dynamic Range Control: You can select the effective dynamic range (subjective range from soft to loud) for playback of Dolby Digital soundtracks. For fully cinematic effect, always select 100%, the default. Settings of 75%, 50%, and 25% progressively reduce dynamic range, making soft sounds comparatively louder while limiting the peak loudness of loud ones.

The 25% setting will yield the least dynamic range and is best for late-night sessions or other times when you wish to retain maximum dialog intelligibility while minimizing overall volume levels.
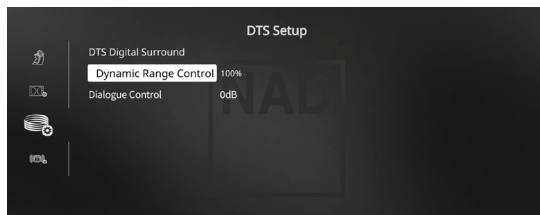
For Dolby TrueHD sources, set the Dynamic Range Control to "Auto".

Center Spread: Center image is spread into the Left and Right speakers. It is designed to complement musical content or to spread the dialogue more evenly across a wide screen display.
    On: Center Spread function is enabled.
    Off: Center Spread function is disabled.

DTS SETUP

Dynamic range control and dialog content can be configured at DTS Setup menu.

Dynamic Range Control: This is the same configurable Dynamic Range Control feature as described above at Dolby Setup, the only difference being the soundtrack is now in DTS format.

Dialog Control: Dialog levels are adjusted. Dialog control is more than just adjusting center channel level as the center channel may also contain other sound elements that get raised or lowered along with the dialog.
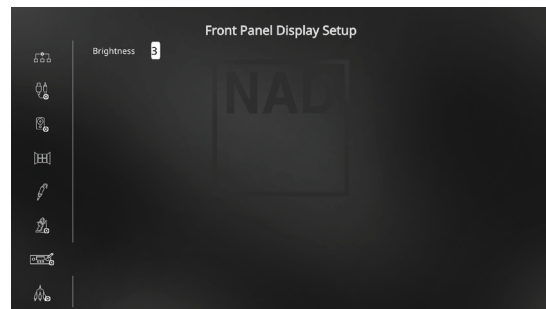
NOTE
Dialog control applies only for playback of DTS:X content that supports DTS Dialogue Control feature.

ENHANCED STEREO
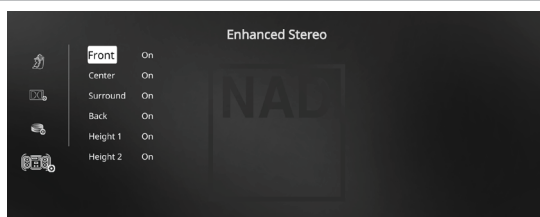
Please refer to the same description of ENHANCED STEREO under "LISTENING MODES".
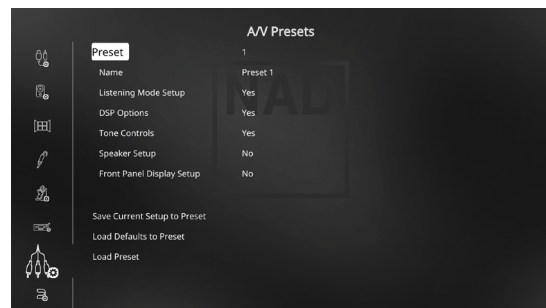
FRONT PANEL DISPLAY SETUP

The brightness level of the front panel display can be adjusted. Level "3" is highest brightness level while "1" is the lowest.

NOTE
The configuration set forth at "Front Panel Display Setup" is carried over whenever it is enabled during A/V Presets setting. Please see also the section below about "A/V Presets".

A/V PRESETS

The M17's simple but powerfully flexible system of "A/V Presets" allows you to customize virtually every aspect of your audio-video playback, and recall them with a single key-press. The parameters "DSP Options" and "Tone Controls" accessible via the "Main Menu" together with "Listening Mode Setup", "Speaker Setup" and "Front Panel Display Setup" configurable through "Setup Menu" are stored together as a single A/V Preset.

You might create one A/V Preset optimized for pop music and another for classical. One more A/V Preset can be set up to recall each family member's favorite setting or one for fully cinematic home-theater playback and yet another one for late-night movies, with each A/V Preset fine-tuned to a particular scenario or preference.

NAME
The A/V Preset label itself can be assigned a new name. This new Name will be shown in the front panel display as well as on the OSD.

To rename the A/V Preset label, scroll to "Name" and press [▶] to go the first character. Then, press [▲/▼] to pick and select through the alphanumeric selections. Press [◀/▶] to move to the next character or back to the previous character and at the same time save the changes done on the current character.

NOTE
The selected A/V Preset remains in force until you select a different A/V Preset.

CREATING PRESETS

Creating an A/V Preset consists simply of storing a complete set of the parameters set forth in "DSP Options" and "Tone Controls" accessible via the "Main Menu" together with "Listening Mode Setup", "Speaker Setup" and "Front Panel Display Setup" configurable through "Setup Menu".

Scroll to "A/V Presets" using the [▲/▼] keys to save a collection of said parameter settings to a Preset. Select a Preset number and by pressing the [▲/▼] keys, you can selectively include in the particular A/V Preset any of the above-mentioned parameter settings by choosing "Yes". If you decide not to include in the particular A/V Preset a certain parameter setting, select "No".
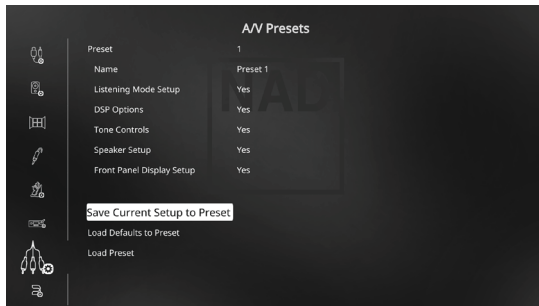
Save Current Setup to Preset

Preset configurations and settings are saved to the current Preset number.

Load Defaults to Preset

Default Preset configurations and settings are saved to the current Preset number.

Load Preset

Effect or load Preset settings configured for the particular Preset number. This is similar to directly recalling the Preset settings for Preset 3 by pressing HTRM 2 button combinations AMP+AV PSET+3.
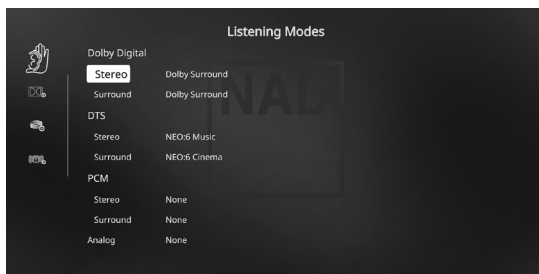
IMPORTANT

If "Load Preset" is selected after "Load Defaults to Preset" is selected, the default settings are loaded.
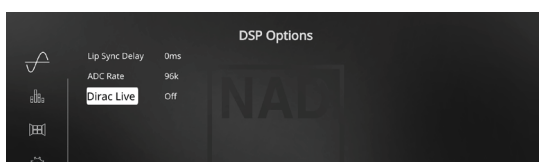
SAMPLE PROCEDURE FOR SETTING UP A/V PRESETS

1   Setup first your preferred settings for the following options (access them through their respective menu page).
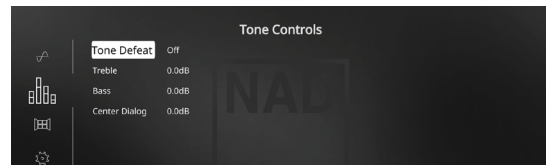
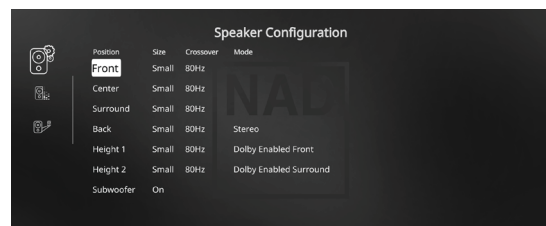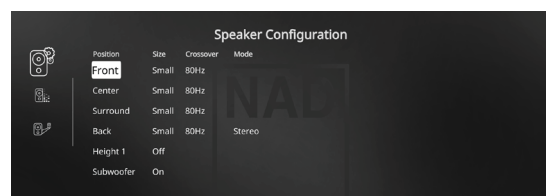Listening Mode Setup: Listening Modes/Dolby Digital/Stereo/Dolby Surround
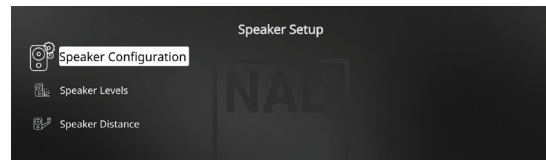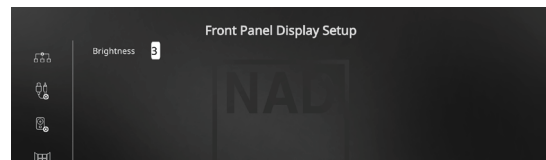

DSP Options: Dirac Live: Off

Tone Controls: Tone Defeat/Off

Speaker Setup: from the Speaker Setup menu, go to "Speaker Configuration" sub-menu and change "Height 1" and "Height 2" from "Off" to "On".
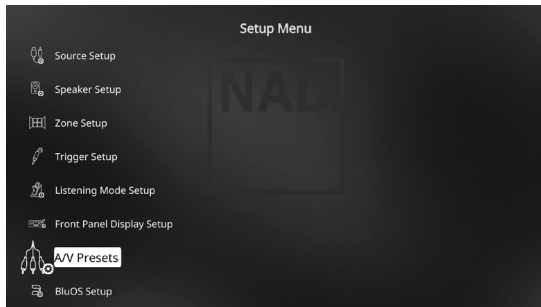

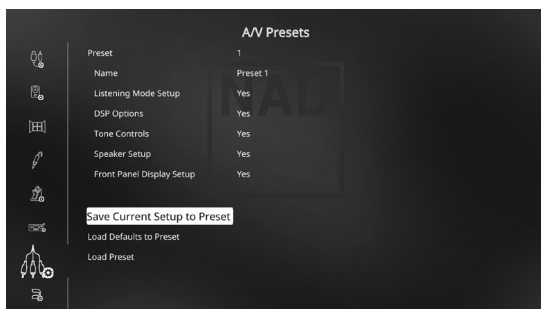Front Panel Display Setup: Brightness level to "3"
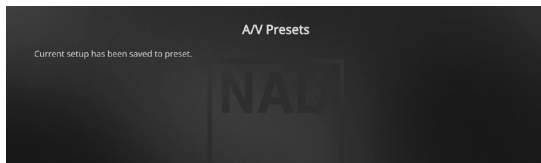
OPERATION

USING THE M17 – SETUP MENU

2 With the above settings, scroll to "A/V Presets" from the SETUP MENU page. Use [▶] to access "A/V Presets" menu.

Setup Menu

- Source Setup
- Speaker Setup
- Zone Setup
- Trigger Setup
- Listening Mode Setup
- Front Panel Display Setup
- A/V Presets
- BluOS Setup

3 At "A/V Presets" page, set "Preset: 1" to the following conditions – use [▲/▼] to select "Yes" and press [ENTER] to confirm selection and move on to the next setting.
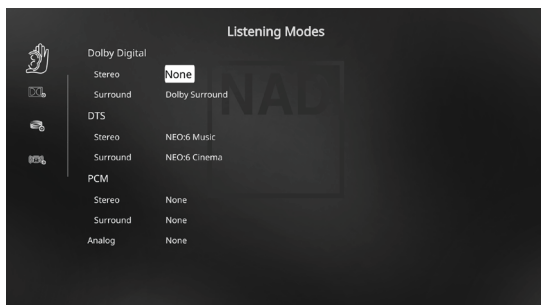
A/V Presets

Preset	1
Name	Preset 1
Listening Mode Setup	Yes
DSP Options	Yes
Tone Controls	Yes
Speaker Setup	Yes
Front Panel Display Setup	Yes

Save Current Setup to Preset
Load Defaults to Preset
Load Preset

While at "Save Current Setup to Preset" menu line, use [▶] to save the above settings to Preset 1. Below OSD will be shown, affirming that the above settings are now saved to "Preset 1".
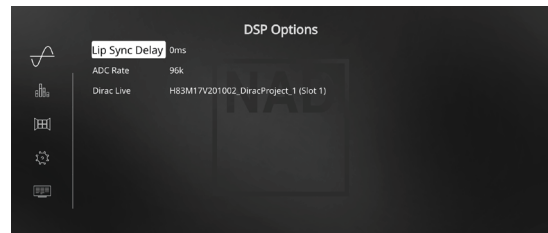
A/V Presets

Current setup has been saved to preset.

When you recall "Preset 1" using the remote control (for HTRM 2, "A/V PSET" + "1"), the above preset values allocated at "Preset 1" (preset settings as shown in the OSD captures at Step 1) will be recalled and effected at the current source.

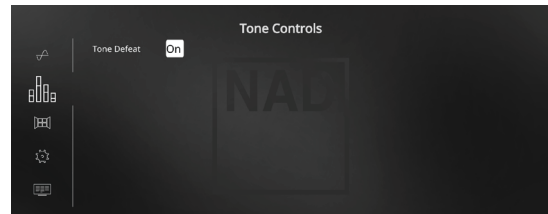**4** Now, repeat again Step 1 above but this time with the following settings

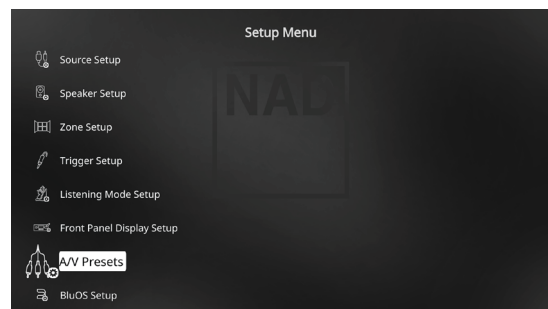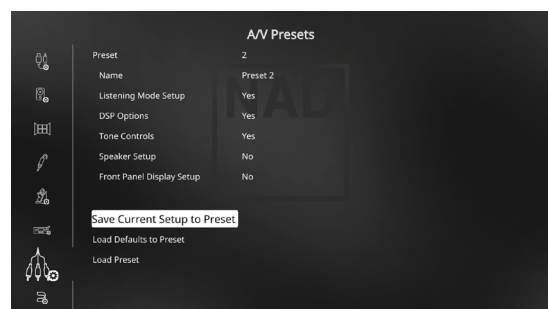Listening Mode Setup: Listening Modes/Dolby Digital/Stereo/None

Listening Modes

Dolby Digital	
Stereo	None
Surround	Dolby Surround
DTS	
Stereo	NEO:6 Music
Surround	NEO:6 Cinema
PCM	
Stereo	None
Surround	None
Analog	None

Dirac Live: Dirac Project 1

DSP Options

Lip Sync Delay	0ms
ADC Rate	96k
Dirac Live	H83M17V201002_DiracProject_1 (Slot 1)

Tone Controls: Tone Defeat/On

Tone Controls

Tone Defeat	On

5 With the above settings, scroll to "A/V Presets" from the SETUP MENU page. Use [▶] to access "A/V Presets" menu.

Setup Menu

- Source Setup
- Speaker Setup
- Zone Setup
- Trigger Setup
- Listening Mode Setup
- Front Panel Display Setup
- A/V Presets
- BluOS Setup

6 At "A/V Presets" page, set "Preset: 2" to the following conditions - use [▲/▼] to select "Yes" or "No" and press [ENTER] to confirm selection and move to the next setting.
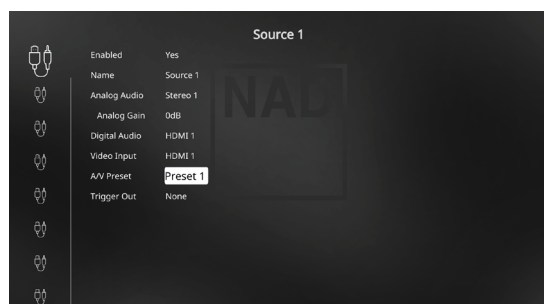
A/V Presets

Preset	2
Name	Preset 2
Listening Mode Setup	Yes
DSP Options	Yes
Tone Controls	Yes
Speaker Setup	No
Front Panel Display Setup	No

Save Current Setup to Preset
Load Defaults to Preset
Load Preset

While at "Save Current Setup to Preset" menu line, use [▶] to save the settings above to "Preset 2". When you recall "Preset 2" using the remote control (for HTRM 2, "A/V PSET" + "2"), the above preset values allocated at "Preset 2" (preset settings as shown in the OSD captures at Step 4) will be recalled and effected at the current source.

Note that "Speaker Setup" is set to "No". At this condition, there will be no "Speaker Setup" values that will be effected at "Preset 2". The "Speaker Setup" settings that will be applied at "Preset 2" will be the last or current "Speaker Setup" settings which in this sample are the same "Speaker Setup" settings shown above in Step 1. The same applies for "Front Panel Display Setup" which is also set to "No".

7 You can setup up to 5 A/V Presets. These same A/V Presets can also be associated/defaulted to each Source in the "Source Setup" window as below.


In the above example, "Preset 1" settings are allocated for Source 1. Whenever Source 1 is accessed, the "Preset 1" settings will be applied to Source 1. You can still manually override the assigned A/V Preset allocation in a specific Source with another Preset setting/number by way of pressing the appropriate remote control buttons.

RECALLING PRESETS
You may recall an A/V Preset number at any time using the HTRM 2 remote control. Press the HTRM 2's A/V PSET key and then the numeric key 1-5 corresponding to the desired A/V Preset number. The newly recalled A/V Preset will then manifest or replace the previous A/V Preset (if any).

BluOS SETUP
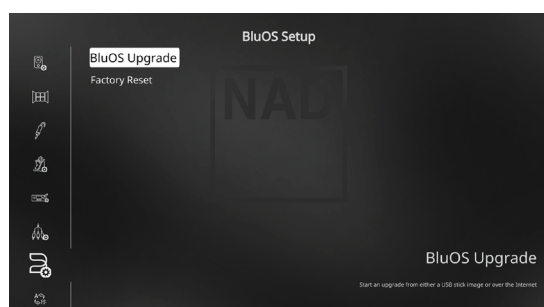
BluOS is a music management software developed by NAD's sister brand, Bluesound. BluOS adds BluOS network and internet music streaming with advanced music management to the M17.

There are two BluOS Setup options – BluOS Upgrade and Factory Reset.

BluOS Upgrade
Use [▶] to initiate BluOS upgrade mode. Ensure that the M17 has internet connection. Follow the display screen prompt to complete the upgrade procedure.

Factory Reset
Restore BluOS to its factory default settings. Use [▶] to initiate BluOS factory reset. Ensure that the M17 has internet connection. Follow the display screen prompt to complete the factory reset procedure.

HOW TO SETUP WIRELESS CONNECTION

1 On your tablet or smartphone, look for the Wi-Fi network (hotspot) matching your BluOS' unique network ID, and join it. The network ID is listed as the product name (i.e. BluOS or M17) immediately followed by the last four digits in the MAC (Machine Access Control address (example: BluOS-001A, M17-001A).

2 Open a web browser on your tablet or smartphone, enter **http://10 .1 .2 .3** and press "Go" or ENTER.

3 A Control Panel page should appear. Select "Configure WiFi" and you will be redirected to "Configure Wireless" page.

4 Select your home network or applicable wireless network name (SSID) from the "Configure Wireless" drop down menu

5 Enter your home network's Wireless Password (Passphrase, WEP/WAP key as applicable) in the field "Enter password or key (if protected)".

The Password (Passphrase, WEP/WAP key as applicable) is the same Password that was setup or generated during the configuration of your home router or gateway. An incorrect password entered in the "Configure wireless" menu screen will simply cause the unit to timeout and return to Hotspot Mode.

Trying multiple passwords will not damage the device in any way. If you are not sure what is your Password, login to your router and locate the Password in the applicable setup screen for Wireless Configuration section. Refer to your router's documentation for further information.

6 Select a "Player name" from the drop down list or use the on-screen keyboard to create a customized room name in the field "Custom name".

7 Press "Update" and wait until the "Congratulations! …" page appears in the browser. This indicates successful connection to your home Wi-Fi network.

8 Reselect your home Wi-Fi network from your tablet or smartphone's main network settings.

Download the BluOS Controller App from the respective App stores of Apple iOS devices (iPad, iPhone and iPod), Android devices, Kindle Fire and Windows or Mac desktops.

Launch the BluOS Controller App and explore everything from your streaming music services, internet radio stations, networked music collections and favorites with quick and easy single-search discovery.
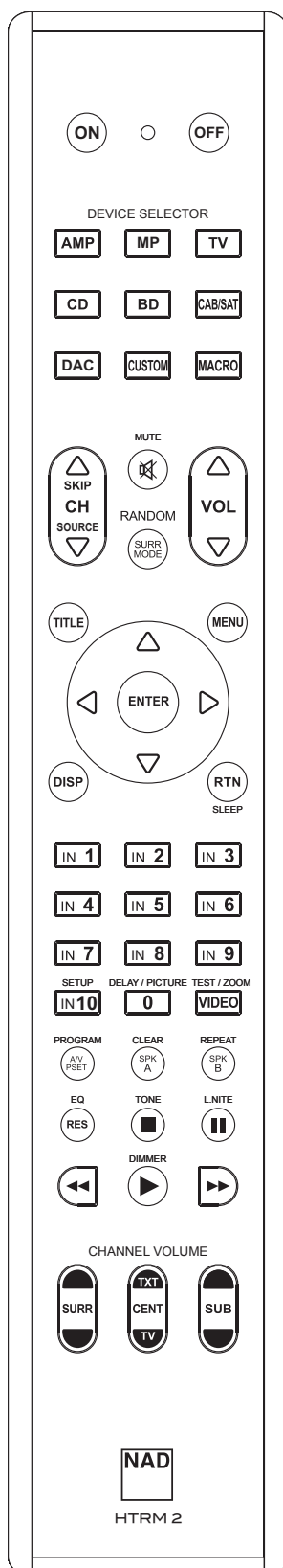
SELECT LANGUAGE
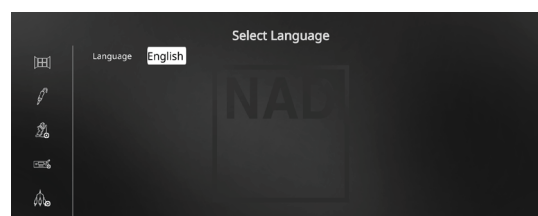
"Select Language" allows the selection of language the OSD is presented. There are two language choices – English and Chinese.

OPERATION

USING THE HTRM 2 REMOTE CONTROL

The NAD HTRM 2 is ready to operate the M17 right out of the box, but it is really eight remotes in one. Each of the 8 Device Selector keys at the top of the handset can call up a new "page" of remote control codes to be transmitted by the remaining keys. You may "teach" codes from any infrared-remote controlled component, regardless of brand, to any or all of these.

Obviously, the most logical system is that you teach the codes from your BD player to the [BD] Device Selector "page," your television's codes to the [TV] "page," and so on, but there is no required scheme: You may load any commands to any key on any page (see "Learning Codes From Other Remotes," below).

The HTRM 2 is already preprogrammed with a full complement of commands for the M17 on its [AMP] Device Selector page, and as well as with library commands to operate most NAD-brand CD, BD or DAC components on the corresponding Device Selector "pages." These default commands are permanent: Even if you teach the HTRM 2 new commands to take their place, the underlying library commands remain in place and can easily be recalled should you add an NAD component to your system later (see "Delete Mode", below).

Note: For use with the M17, it should not be necessary to re-program any keys on the HTRM 2 [AMP] page. However, in order for the HTRM 2 to control your specific NAD-brand components you may need to load one or more different code-libraries (see "Loading Code Libraries," below).

CONTROLLING THE M17

The HTRM 2 is divided into two main sections. Eight Device Selector keys at the top—[AMP], [MP,] [TV,] and so on—set the handset's remaining keys to a "page" of commands to control a particular component. A Device Select key determines only what component the HTRM 2 will command; it does not perform any function on the M17. All of the remaining keys are function keys that can "learn" control codes from virtually any infrared remote controller, allowing you to teach the codes of your equipment, regardless of brand, to the HTRM 2.

However, the HTRM 2 is already preprogrammed to operate the M17. All of the function keys on the [AMP] Device Selector "page" perform M17 functions. (The HTRM 2 can also command many other NAD components, from its [CD], [BD], [DAC] and [CUSTOM] pages.)

It is important to note that certain HTRM 2 keys perform different functions depending on the selected Device Selector "page."

LEARNING CODES FROM OTHER REMOTES

Begin by positioning the HTRM 2 "nose-to-nose" with the source remote so the two devices' infrared windows are about 2 inches apart.

- Enter Learning Mode: On the HTRM 2, simultaneously press-and-hold for 3 seconds both a Device Selector key and the [RES] key until the Learn LED (located between HTRM 2's ON and OFF buttons) turns steady green.
- Press the HTRM 2's function key you wish to teach a command; the Learn LED will turn amber.
- Press-and-hold the function key on the source remote: The HTRM 2's Learn LED will flicker amber for a second or two, then turn solid green. The command is learned.
- Press the HTRM 2's Device Selector key again to exit the learning mode.

If the Learn LED does not flicker amber you may need to vary the distance between the remotes. If the Learn LED turns red rather than green, that particular command of that source remote command could not be learned.

Example: Learning "BD Pause"
Position the HTRM 2 and your BD player's remote as described above.
- On the HTRM 2, simultaneously press-and-hold [BD] and [RES]; the Learn LED turns steady green.
- Press the HTRM 2's Pause [**II**] key; the Learn LED turns amber.
- Press-and-hold the corresponding Pause key of your BD player's remote control; the HTRM 2's Learn LED flickers amber and then turns solid green. The command is learned.
- Press [BD] again to exit the learning mode.

NOTES
- *The DEVICE SELECTOR keys can themselves be configured to learn a command.*
- *Press and hold a configured DEVICE SELECTOR for at least 2 seconds to execute a function assigned to the particular DEVICE SELECTOR key.*
- *Short press of a configured DEVICE SELECTOR will just switch the active device.*

CANCEL OPERATION

You can cancel configuring a key, by pressing the active Device Selector key before the learn process is complete; the Learn LED will turn red.

PUNCH THROUGH

The HTRM 2's "punch-through" function allows you to retain a function key from one Device Select "page" to another, so that, for example, the AMP [SURR MODE] function might still control the M17 when the BD Device Selector page is active.

NOTE
The HTRM 2's [VOL △/▽] keys are pre-programmed as "punched-through" for all Device Selector pages: [VOL △/▽] will operate the M17's master-volume regardless of the currently selected device. The [SURR] [CENT] and [SUB] Channel Volume controls similarly are pre-programmed as punched-through.

To set a punch through, after entering the Learning Mode, and pressing the desired key to be punched through, simply press the device key twice of the device to punch through to. The status LED will turn green; press the Device Selector key again to exit Learning Mode.

Example: Punch-through AMP [SURR MODE] key to the BD "page"
- On the HTRM 2, simultaneously press-and-hold [BD] and [RES]; the Learn LED turns steady green.
- Press [SURR MODE]; the Learn LED turns amber.
- Press [AMP] twice; the Learn LED turns green.
- Press [BD] again to exit the learning mode.

COPY A COMMAND FROM ANOTHER KEY

You may copy a command from any HTRM 2 key to any other. To copy a key function, after entering the Learning Mode, and pressing the desired key to be copied to, simply press the device key from which you wish to copy, having first pressed its Device Selector key if it resides on another "page." The status LED will turn green; press the Device Selector key again to exit Learning Mode.

Example: Copy the Pause command from the CD page to the AMP [**II**] button:
- On the HTRM 2, simultaneously press-and-hold [AMP] and [RES]; the Learn LED turns steady green.
- Press Pause [**II**] ; the Learn LED turns amber.
- Press [CD]; press Pause [**II**] ; the Learn LED turns green.
- Press [AMP] again to exit the learning mode.

NOTE
The copy and punch-through functions are similar. However, if you copy a command and then subsequently delete, or over-write the original (source-key) command , the copied-to key's command remains unchanged. If you punch-through to a command and then delete or over-write the original key, the punched-through functions also change accordingly.

MACRO COMMANDS

A "macro" command is a series of two or more remote codes issued automatically from a single keypress. You might use a macro to automate a simple command sequence, such as, "Turn on the BD player and then press PLAY". Or you might compose an elaborate macro to power up an entire system, select a source, choose a Listening Mode, and begin playback—again, all from a single keypress. Each DEVICE SELECTOR and function keys of the HTRM 2 can be stored one macro.

NOTE
Macros are independent of the currently selected device.

RECORDING MACROS

To record a macro, simultaneously press-and-hold for 3 seconds both the [MACRO] key and the HTRM 2 function key to which you wish to assign the macro, until the status LED turns green. The macro button will also light up.

Press the sequence of function keys to be recorded into the macro, being sure to first press the requisite Device Selector key for each function (you may switch devices while recording the macro as many times as necessary), allowing you to create macro containing commands from more than one Device Selector "page."

When you have finished entering the desired command sequence, press [MACRO] again to store the macro; the Learn LED and [MACRO] key illumination will turn off.

NOTE
Each macro can store a maximum of 64 command steps. If you exceed this number, the macro will be stored automatically after the 64th command is added.

OPERATION

USING THE HTRM 2 REMOTE CONTROL

Example: Record a Macro to the [0] key to Turn on the M17, Select "Input 1" (Source 1), and Commence Playback of connected Source 1 device (as in BD player):

- On the HTRM 2, simultaneously press-and-hold [MACRO] and [0] (numeric zero); the Learn LED turns steady green.
- Press [AMP]; press [ON]; press [1] ("Input or Source 1"); press [BD]; press [▶] (Play) - the Learn LED blinks as each step is added.
- Press [MACRO] again to exit the macro-record mode.

To clear a macro, perform the above steps without entering any functions.

EXECUTING MACROS

To execute a macro, press and release [MACRO]; its key illumination lights for 5 seconds. While it remains lit, press an HTRM 2 key to which a macro has previously been stored.

The corresponding macro will run; as each step executes, its "parent" Device Selector's key flashes lights briefly; when execution is finished, the [MACRO] key illumination goes out. Pressing any other HTRM 2 key while a macro is executing will abort the macro. Remember that you must hold the HTRM 2 so that its infrared emitter can activate the target components.

NOTE
When a macro executes, a 1 second delay is automatically inserted between its commands. If you need more than a 1 second delay between particular commands—for example, to permit a component to power up completely—you can record "empty" steps into the macro by changing Device Selector "pages" without entering actual command functions.

KEY ILLUMINATION TIMEOUT

The HTRM 2's key-illumination can be set to remain lit for 0-9 seconds. The default value is 2 seconds. To set the illumination timeout, simultaneously press-and-hold for 3 seconds both the HTRM 2's [DISP] and the [0-9] key, with the digit corresponding to the desired timeout duration; the Learn LED will flash twice to confirm the new setting. When set to zero, the illumination will not turn on at all.

NOTES
- *Key illumination is activated when one presses any HTRM 2 key.*
- *If HTRM 2 senses movement, key illumination is activated without having to press a key. If HTRM 2 is shaken, key illumination is also activated.*
- *Key illumination is the biggest drain on the HTRM 2's batteries. A short key illumination timeout will extend battery life appreciably; turning it off altogether (set it to 0 seconds) will lengthen it still further.*

CONFIGURING KEY ILLUMINATION

Keys to Press (for 3 seconds)	Mode
DISP + Digit Key (0-9)	Set key illumination timeout to number of seconds corresponding to digit key. Zero turns off the key illumination entirely.
DISP + OFF	Disable light sensor. Key illumination will turn on with any key press.
DISP + ON	Enable light sensor.
DISP + ENTER	Set the light sensor threshold to the current light level.
DISP + RTN	Restore all key illumination settings to the defaults.

FACTORY RESET

The HTRM 2 can be reset to its factory state, deleting all learned commands, copied and punched-through keys, macros, and other setup information, reverting all keys to their pre-programmed library commands.

To perform a factory reset simultaneously press-and-hold for 10 seconds the HTRM 2's [ON] and [RTN] keys; the Learn LED will start to flash green. Release [ON] and [RTN] before the second flash is complete; the Learn LED will turn red, indicating the remote has been reset.

NOTE
You must release [ON] and [RTN] before the second flash goes out, otherwise the unit will not reset; should this occur, repeat the full procedure.

DELETE MODE

The HTRM 2 can store learned, copied, and "default library" commands on any single key (The default library commands are the pre-programmed NAD codes, such as the native M17 commands on the [AMP] "page.").

You can delete commands by layers back "down" to the default library command on any key, removing learned commands, punched-through functions, and copied keys.

NOTE
The default library commands cannot be deleted, so you need not worry that using Delete Mode might cause irreparable changes.

To enter Delete Mode, simultaneously press-and-hold for 3 seconds both the desired key's Device Selector key and the [RTN] key, until the Learn LED turns green. Press the function key whose command you wish to delete; the Learn LED flashes; the number of times indicates which type of function has become active - see the table below. Press the active Device Selector key again to exit Delete Mode.

NOTE
You may delete multiple function-key commands on the same Device Selector "page," but to delete from more than one Device Selector page you must exit Delete Mode and then re-enter it on the required page.

Flashes	Command Type
1	Default Library Command
2	Copied Library Command
3	Learned Command

LOADING CODE-LIBRARIES

The HTRM 2 can store a different library of default NAD codes for each of its Device Selector "pages." If the original default library does not control your NAD CD player, tape deck, BD player, or other component, follow the procedure below to change the code-library.

Begin by ensuring that the component you wish the HTRM 2 to control is plugged in and powered-up ("on," not merely in standby). To enter the HTRM 2s Library Mode, simultaneously press-and-hold for 3 seconds both the desired Device Selector key and the [A/V PSET] key, until the Learn LED turns green.

While keeping the HTRM 2 pointed toward the component, enter the first appropriate three-digit code-library number from the table below. Press [OFF]. If the component turns off, press [ENTER] to accept that code-library number and exit the Library Mode. If the component does not turn off, enter the next three-digit code-library number from the table.

When you enter the correct number the component will turn off; press [ENTER] to accept that code library number and exit the Library Mode.

LIBRARY CODE	NAD PRODUCT DESCRIPTION	LIBRARY CODE	NAD PRODUCT DESCRIPTION
100	Receiver/Processor (Discrete ON/OFF)	300	Tuner
101	Receiver/Processor (Toggle ON/OFF)	301	L75, L76 Tuner
102	S170	302	L70 Tuner
103	L75	303	L53 Tuner
104	Second Zone Commands (Zone 2)	304	L73 Tuner
3112	Zone 3	305	C425
4112	Zone 4	306	C445
105	L70	307	Txx5 Series Tuner
106	L76	400	Tape Deck B
107	118	401	TAPE Deck A
108	L53	500	TV 280
109	L73	501	MR13
110	Stereo Receiver / Amplifier	502	MR20
111	Stereo Second Zone	503	PMR45
112	Txx5 Series	600	T535, T562, T585, M55
200	CD Player	601	T550, L55
201	CD Player (old)	602	T512, T531, T532, T571, T572
202	5170, 5240, 5340	603	L70, L73 BD
203	5325	604	L56
204	5060	605	T513, T514, T515, T517, T524, T533, T534
205	M5	606	L53 BD

SEARCH MODE

If none of the codes from the table, when entered, turns on the component, and if you are quite sure you have followed the above procedure completely and carefully, you may want to try the "search" method as follows:

Enter Library Mode by simultaneously pressing-and-holding for 3 seconds both the desired Device Selector key and the [A/V PSET] key, until the Learn LED turns green. Now press-and-hold the HTRM 2's [△] or [▽]) key; the remote will step through all the available codes at a rate of approximately 1 per second.

When the component turns off, immediately release the cursor key; press [ENTER] to accept that code-library and exit the Library Mode. Try a few commands; should you prove to have stepped past the needed code-library, re-enter the Library Mode and use the cursor key to step back to it.

NOTE

It is possible that search mode will find code-libraries that operate, at least partially, some other brand (non-NAD) components. You may certainly exploit such capabilities as you find them. However, since we can only ensure the completeness or accuracy of NAD code-libraries, we cannot support the HTRM 2's operation with other-brand components.

CHECKING CODE-LIBRARY NUMBER

You can check the current code-library on any Device Selector key as follows. Enter Library Mode by simultaneously pressing-and-holding for 3 seconds both the desired component's Device Selector key and the [A/V PSET] key, until the Learn LED turns green. Press the [DISP] key; the HTRM 2 indicates the current code-library by flashing its [DAC], [CUSTOM], and [MACRO] keys.

For example, to indicate code-library #501, the HTRM 2 will flash [DAC] 5 times, pause, and then flash [MACRO] once. You might wish to make a note of your components' code-library numbers.

OPERATION

USING THE HTRM 2 REMOTE CONTROL

SUMMARY OF THE HTRM 2 MODES

| Mode	Keys To Press (for 3 seconds)
Learn/Copy/Punch Through	Device Key + RES Key
Delete Mode	Device Key + RTN Key
Macro Record	Macro Key + Function Key
Library Mode	Device Key + [A/V PSET] Key
Back Light Timeout	DISP Key + Digit Key
Factory Reset	See "Factory Reset" above

SLEEP MODE

The Sleep Mode timer will switch the M17 to Standby mode automatically after a preset number of minutes. Pressing the HTRM 2's SLEEP button once will display the setting of the sleep time increment. Pressing the HTRM 2's SLEEP button a second time within a 3-second period will change the sleep time increment in 15-minute intervals, after which time the M17 will automatically switch into Standby mode.

To adjust the sleep delay, press the HTRM 2's SLEEP button twice; first to display the sleep time increment, and a second time to change the sleep time increment. The sleep time increment and a "SLEEP" icon will continuously display on the M17's front panel Vacuum Fluorescent Display (VFD). Each consecutive press increases the sleep time in 15-minute increments from 15 to 90 minutes. To cancel the sleep mode, continue pressing the HTRM 2's SLEEP button until "Sleep Off" displays on the VFD. Switching the M17 to standby from either the HTRM 2's OFF or the M17's STANDBY button will also cancel the sleep mode

USING THE ZR 7 REMOTE CONTROL

The ZR 7 is a discrete compact remote for controlling the Zone 2 feature of the M17. Irrespective of the main room/zone settings, the ZR 7 allows full separate control of the Zone 2 source selection among other applicable features.
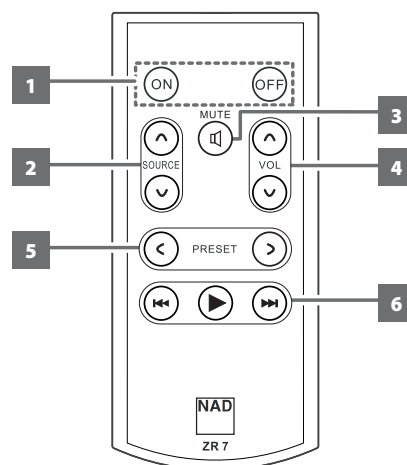
1 **ON/OFF:** Switch ON/OFF Zone 2.

2 **SOURCE [∧/∨]:** Select the active input of the NAD M17 that will be sent out to the corresponding rear panel ZONE 2 output port.

3 **MUTE:** Temporarily switch OFF or restore the Zone Volume level.

4 **VOLUME [∧/∨]:** Increase or decrease the loudness level of selected Zone source. This is possible only if the VOLUME setting of ZONE 2 CONTROLS is set to VARIABLE.

5 **PRESET [‹/›]:** Step up or down between stored radio presets. This control button is possible if the selected Zone is "TUNER" and the active tuner section has stored presets. This control button is not applicable to M17.

6 The following CD Player Zone buttons can control a compatible CD Player. The CD Player has to be powered ON and disc loaded.
SKIP [|◄◄]: Go to the beginning of a track/file or previous track/file.
SKIP [►►|]: Go to the next track/file.
[►]: Start playback.

NOTE

The ZR 7 remote control will only control Zone 2 applications. Zone 3 and Zone 4 could be configured and managed at the appropriate Zone OSD menu using the front panel navigations keys as well as the corresponding keys on the HTRM 2 remote control. The HTRM 2's 'CUSTOM' device is also defaulted to Zone 2 remote control codes.

OVERALL SPECIFICATIONS

Line Level Input

Input impedance (R and C)	56 kΩ + 220 pF
Input sensitivity	40 mV (ref. 500 mV out)
Maximum input signal	>8 Vrms
Signal/Noise ratio, A-weighted	>90 dB (ref. 500 mV in 500 mV out, volume set to unity gain)
	>80 dB (ref. 2 V out, Volume maximum)
Channel Separation	>70 dB (ref. 1 kHz/10 kHz)
Frequency response	±0.3 dB (ref. 20 Hz - 20 kHz, Tone Active)
	±0.3 dB (ref. 20 Hz - 20 kHz, Tone Defeat)
Frequency response (subwoofer out)	10 - 200Hz (ref. -3 dB)

Output

Maximum output level	>8 Vrms into 600 Ω
THD (CCIF IMD, DIM 100)	<0.005% (ref. 20 Hz - 20 kHz, 2 V out)
XLR	>2 Vrms
Standby mode	<0.5 W

Tone Controls

Treble	±10 dB at 10 kHz (ref. 2V in 2V out)
Bass	±10 dB at 100 Hz (ref. 2V in 2V out)

Connections

HDMI	Up to 1080p
Optical	3 Vpp
Coaxial	0.5 Vpp
Ethernet	RJ45 10/100 Ethernet Tx

DIMENSION AND WEIGHT

Unit dimensions (W x H x D) *	435 x 156 x 386 mm
	17 ⅛ x 6 ³⁄₁₆ x 15 ¼ inches
Shipping weight	17.5 kg (38.6 lbs)

NAD

www.NADelectronics.com