



M17

AV Surround Sound Preamp Processor

ENGLISH



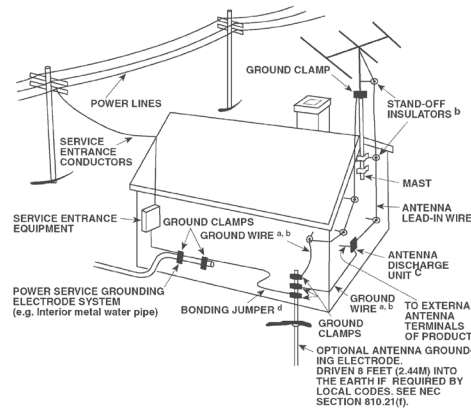
Owner's Manual

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 from 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.

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.



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 :

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THANK YOU FOR CHOOSING NAD.

The M17 AV Surround Sound Preamp Processor is a technologically advanced and highly capable product — yet we have invested great effort in making it simple and easy to use. The M17 delivers a range of genuinely useful options for surround sound and stereo listening alike, using powerful digital signal processing and superbly accurate digital-audio circuitry. However, we have also been careful to ensure that the M17 is as musically transparent, faithful to every video detail and spatially accurate as possible, incorporating much of what we've learned from a quarter-century's experience designing audio, video and home-theater components. As with all our products, NAD's "Music First" design philosophy guided the M17's design, such that it can confidently promise you both state-of-the-art surround home-theater and audiophile-quality music listening for years to come.

We encourage you to take a few minutes now to read right through this manual. Investing a little time here at the outset might save you a good deal of time later, and is by far the best way to ensure that you make the most of your investment in the M17, and get the most from this powerful and flexible home-theater component.

One more thing: We urge you to register your M17 ownership on the NAD Worldwide Web site:

<http://NADelectronics.com/salon>

For warranty information contact your local distributor.

NAD SHALL NOT BE HELD LIABLE FOR ANY TECHNICAL OR USER INTERFACE DISCREPANCIES IN THIS MANUAL. THE M17 OWNER'S MANUAL MAY BE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. CHECK OUT THE NAD WEBSITE FOR THE LATEST VERSION OF THE M17 OWNER'S MANUAL.

WHAT'S IN THE BOX

Packed with your M17 you will find

- A detachable mains power cord
- Audyssey microphone
- 3.5mm female jack to RCA plug Adapter for Audyssey microphone input
- HTRM 2 remote control with 4 AA batteries
- ZR 7 zone remote control with 3V CR2025 battery
- Four pieces of magnetic feet
- Cleaning cloth
- USB flash drive
- Quick Setup Guide

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.

It is perfectly possible to stack the M17 on top of other components, but the reverse usually should be avoided.

DEFAULT SOURCE SETTINGS

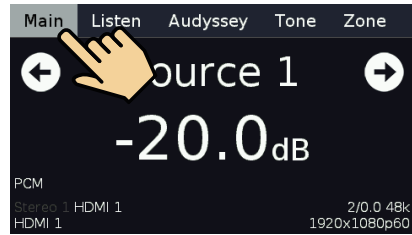
The following table lists the default SOURCE settings. Note that the Audio input settings show both digital and analog audio input. Digital input will always take precedence over analog audio input even if both are present.

Source	Audio Input	Video Input
Source 1	HDMI 1/Audio 1 IN	HDMI 1
Source 2	HDMI 2/Audio 2 IN	HDMI 2
Source 3	HDMI 3/Audio 3 IN	HDMI 3
Source 4	HDMI 4/Audio 4 IN	HDMI 4
Source 5	Optical 1 IN/Audio 5 IN	Video 1 IN
Source 6	Optical 2 IN/Audio 6 IN	Video 2 IN
Source 7	Coaxial 1 IN/Audio 6 IN	Video 3 IN
Source 8	Optical 3 IN	Component Video Input 1
Source 9	Coaxial 2 IN	Component Video Input 2

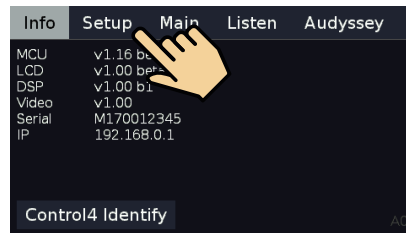
To modify the above default settings and for a better understanding of source setting and combinations, please refer to the item about "SOURCE SETUP" in the "USING THE M17 - SETUP MENU" segment of the "OPERATION" section.

RESTORING M17 TO ITS FACTORY DEFAULT SETTINGS

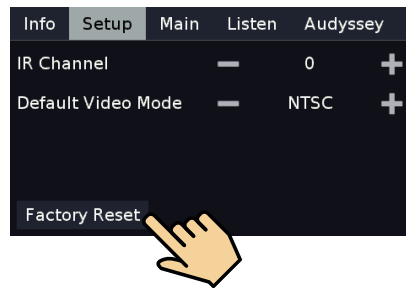
- 1 Press and hold front panel's "Main" display.



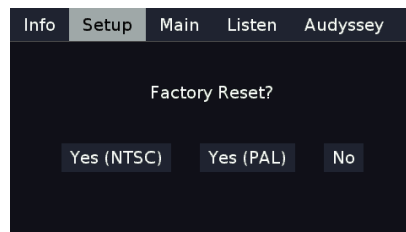
- 2 Select "Setup" display option.



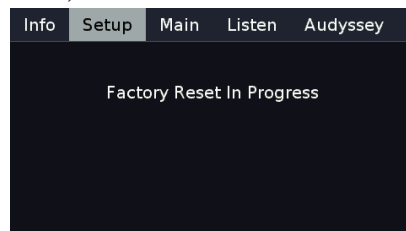
- 3 Select "Factory Reset" display option.



- 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.

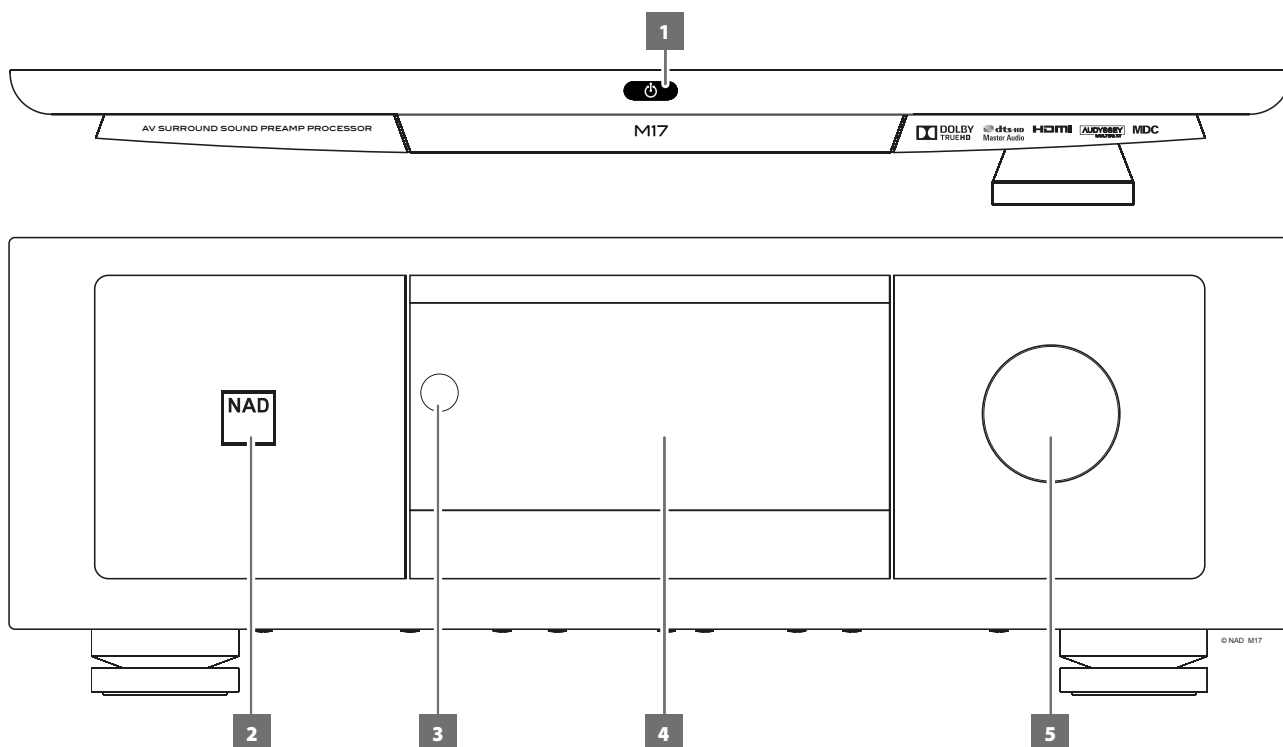


- 5 Factory reset is complete after the display below and the M17 going to standby mode.



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.
 - 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.
 - 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 the 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.

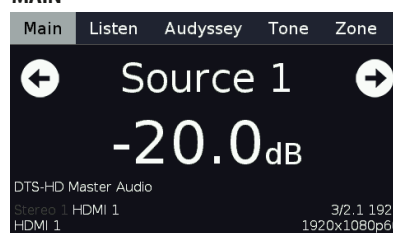
Angle: About 30° in each direction of the front of the remote sensor.

4 DISPLAY

- Show visual and menu information according to the display settings selected.
- There are four display options – Main, Listen, Audyssey, Tone and Zone.
- Use your finger to press and select any of these display options to show their corresponding menu options or settings.

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.

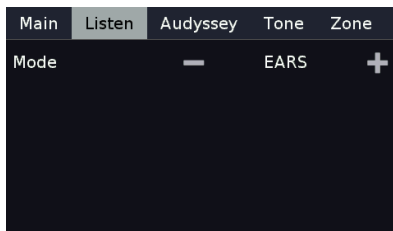
DTS-HD Master Audio: Audio Codec - Detected audio stream format.

HDMI 1/HDMI 1: Audio and video input source.

3/2.1 192k: Audio Source format; sample rate.

1920x1080p60: Video mode - Video resolution of current source with frame rate.

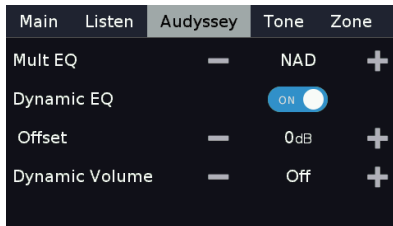
LISTEN



EARS: Listening mode.

- +: Go to previous or next Listening mode.

AUDYSSEY

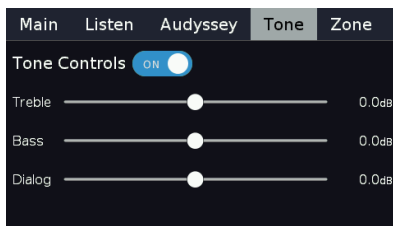


-/+: Go to previous or next option.

ON : Slide to turn ON or OFF Dynamic EQ.

For descriptions of the above item, refer to sections about DSP OPTIONS and AUDYSSEY CALIBRATION.

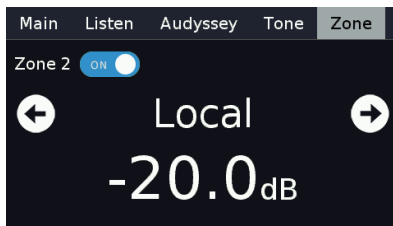
TONE



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



ON : Slide to turn ON or OFF Zone 2.

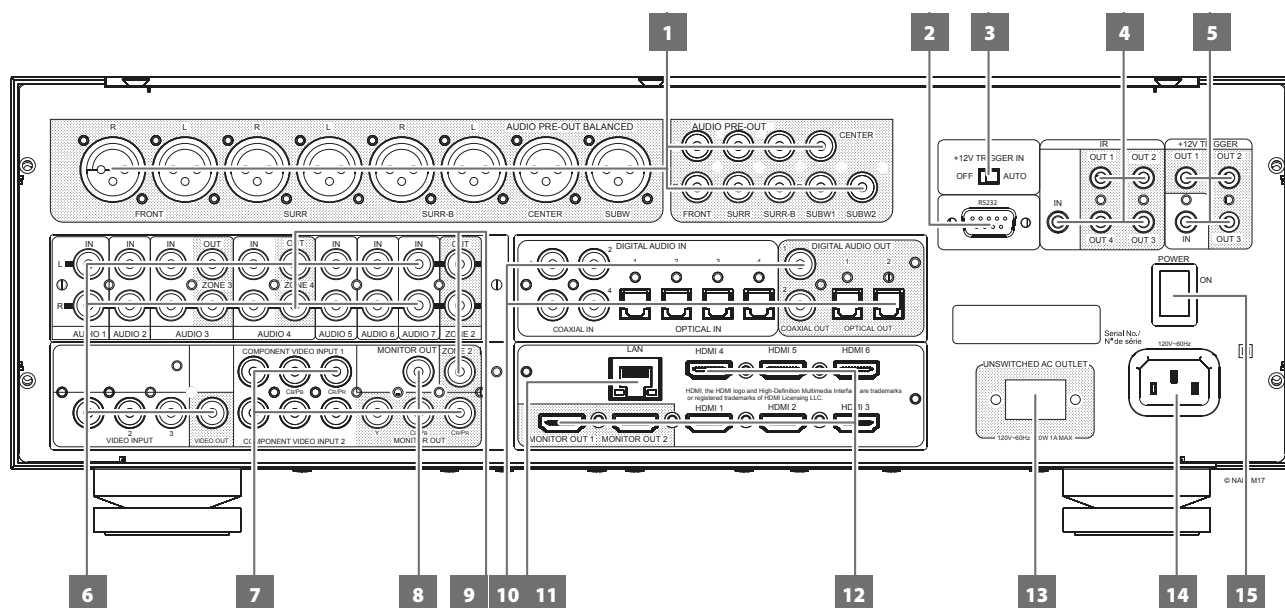
← → : Go to previous or next Source.

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)

- The AUDIO PRE-OUT makes it possible to use the M17 as a pre-amplifier 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 SUBW 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 RS 232

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.

3 +12V TRIGGER IN (OFF/AUTO)

- The settings of +12V TRIGGER IN (OFF/AUTO) together with +12V TRIGGER (IN) (item 5) affect the manner on how the M17 can be switched ON from standby mode or back to standby mode.

+12V TRIGGER IN (AUTO)

- If +12V TRIGGER IN (OFF/AUTO) is set to AUTO, pressing the front panel (Standby) button or HTRM 2's ON/OFF button cannot switch ON the M17 from standby mode and vice-versa. Both control buttons are effectively disabled thereby handling the function of powering up the M17 to an external controller.
- 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 at +12V TRIGGER (IN)(item 5).

+12V TRIGGER IN (OFF)

- Slide the +12V TRIGGER IN (OFF/AUTO) switch to OFF for the M17 to be normally switched ON from standby mode and vice-versa using the front panel (Standby) button or HTRM 2's ON/OFF button.
- The +12V TRIGGER (IN) (item 5) is disabled with +12V TRIGGER IN (OFF/AUTO) set to OFF.

Below is a table of sample combination settings with respect to switching ON the M17 from standby mode and vice versa.

+12V TRIGGER IN (OFF/AUTO)	+12V TRIGGER (IN) (item 5)	AUTO TRIGGER IN	FRONT PANEL (STANDBY)	HTRM 2 (ON/OFF)	M17 POWER MODE STATE
AUTO	+12V	Main, All	ON	ON	Operating mode
AUTO	+12V	Main, All	OFF	OFF	Operating mode
AUTO	0V	Main, All	ON/OFF	ON/OFF	Standby mode
AUTO	0V	Zone 2, Zone 3 or Zone 4	ON	ON	Operating mode
AUTO	0V	Zone 2, Zone 3 or Zone 4	OFF	OFF	Standby mode
OFF	+12V or 0V	Any setting	ON	ON	Operating mode
OFF	+12V or 0V	Any setting	OFF	OFF	Standby mode

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 IN/VIDEO INPUT 1-3

- These comprise the M17's other sets of principal input. Connect these audio and video input ports to corresponding output ports of compatible source components such as DVD players, CD players or cable/satellite boxes.
- AUDIO 5 IN, AUDIO 6 IN and AUDIO 7 IN are ideal for the connection of the analog output of line-level audio sources like a CD player or Stereo tuner.
- The Left Channel of AUDIO 1 IN is the assigned port where the supplied 3.5mm female jack to RCA plug Adapter can be connected. Plug in the Audyssey microphone into the adapter for Audyssey Auto Calibration.

AUDIO 3-4 OUT/VIDEO OUT

- Connect AUDIO 3 OUT (and/or AUDIO 4 OUT) to corresponding recording components or audio/video input ports of compatible sources like cassette deck, CD/DVD recorder or outboard audio processors.
- The signal present at AUDIO 3 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. See also Zone output description below.

7 COMPONENT VIDEO INPUT 1-2, COMPONENT VIDEO MONITOR OUT

- Connect the Component Video Input to Component Video output of compatible source components, typically a DVD player, BD player, digital cable box or other applicable components. Connect Component Video Monitor Out to the Component Video input of a compatible video monitor/TV.
- Be sure to observe consistency in connecting the Y/Pb/Pr jacks to the corresponding sources/inputs. The routing of the two component video input is fully configurable via the Source Setup item of the Setup Menu OSD.
- The M17's sets of component video input and output are fully wideband and compatible with allowable HDTV formats.

IDENTIFICATION OF CONTROLS

REAR PANEL

8 MONITOR OUT (COMPOSITE VIDEO)

- Connect to the video input of a monitor/television using quality dual-RCA connectors designed for video signals.

9 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.
- Send zone selected audio and video output to the corresponding audio and video 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.

NOTES

- “Zone 4” is audio only and not associated with any video input sources.
- Zone 2 and Zone 3 video output are available only if the corresponding zone’s video source is composite video.

10 DIGITAL AUDIO IN (COAXIAL IN 1-4, OPTICAL IN 1-4)

- 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.

DIGITAL AUDIO OUT (COAXIAL OUT 1-2, OPTICAL OUT 1-2)

- Connect the optical or coaxial DIGITAL AUDIO OUT to the corresponding digital audio input of compatible devices such as receivers, computer soundcard or other digital processors.

11 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.

- With Ethernet connection established, you can now control the M17 using the NAD AVR Remote App that can be downloaded from the Apple App store to your iOS device (iPhone, iPad or iPod Touch). Ensure that your iOS device with the NAD AVR Remote App is connected to the same network as the M17.
- The NAD AVR Remote App automatically discovers your network-connected M17 and walks you through controlling and adjusting fundamental functions including power, volume, source selection and other basic setup features.
- 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	Audyssey
MCU	v1.16 beta 11			
LCD	v1.00 beta 19			
DSP	v1.00 b1			
Video	v1.00			
Serial	M170012345			
IP	192.168.0.1			
Control4 Identify				

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 pertinent to internet connectivity.

12 HDMI (HDMI IN 1-6, HDMI MONITOR OUT 1-2)

- Connect the sets of HDMI input to the HDMI OUT connectors of source components such as DVD player, BD player or HDTV satellite/cable box.
- Connect the HDMI MONITOR OUT 1 and/or HDMI MONITOR OUT 2 to compatible HDTV or projector with HDMI input. 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 equipment connected via HDMI sockets.

13 UNSWITCHED AC OUTLET (120V version model only)

- With M17 switched ON or at standby mode, mains power is always available at this outlet.
- This outlet can be used for components that may require continuous supply of AC mains; some tuners require uninterrupted mains supply to retain preset memory, for instance.
- The total draw of all devices connected to this outlet must not exceed 120 watts.
- Mains power at this outlet can be shut down by switching OFF the M17 via the rear panel POWER switch.

14 AC MAINS INPUT

- The M17 comes supplied with a separate detachable mains power cord. Before connecting the plug to the mains power source, connect firmly first the other end to M17’s AC Mains input socket.
- 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).

15 POWER

- Supply the AC mains power to the 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.

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 setup.

DISPLAY THE OSD

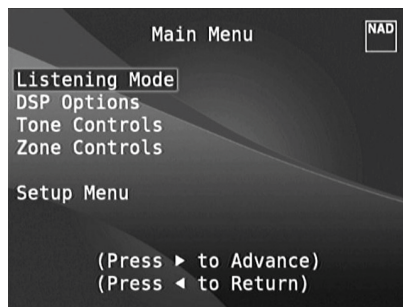
Press [▷] or [ENTER] buttons of the HTRM 2 remote control to display the M17's Main Menu on your video monitor/TV. If the OSD does not appear, check your MONITOR OUT connections.

NAVIGATING THE OSD AND MAKING CHANGES

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

- 1 Press [▷] to select a menu item. Use [Δ/▽] 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 [Δ/▽] 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 “Listening Mode”, “DSP Options”, “Tone Controls”, “Zone Controls” 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 “Listening Mode”, “DSP Options” and “Tone Controls” are carried over whenever they are enabled at A/V Presets setting. Please see the section “AV PRESETS” for reference.

LISTENING MODE



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.

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.

STEREO

All 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 or FM broadcast, 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

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.

DIRECT listening mode is selectable only during source playback. In order to setup DIRECT as preferred listening mode, the following steps have to be undertaken.

- 1 Go to LISTENING MODE SETUP under SETUP MENU. Select LISTENING MODES. Under LISTENING MODES menu, set to “None” all the parameter settings for Dolby, DTS, PCM and Analog.
- 2 Then, go to A/V PRESETS items under SETUP MENU. Scroll to LISTENING MODE item and set to “Yes”. Store this LISTENING MODE setting to Preset 1 along with the other parameter settings by clicking “Save Current Setup to Preset”.
- 3 This saved “Preset 1” setting can now be associated to any Source. Below is a sample association.
 - a Under SOURCE SETUP (Normal View), go to SOURCE 1 and scroll down to A/V Preset and set “A/V Preset” to “Preset 1”.
 - b Now, whenever SOURCE 1 is recalled with “Preset 1” associated to it, the LISTENING MODE setting will always be DIRECT.

PRO LOGIC

Two-channel recordings, whether stereo or surround-encoded, are reproduced with Dolby Pro Logic surround processing, yielding output to front left/right, center and discrete left/right surround channels (assuming these are present in the current “Speaker Configuration”). The surround channel is monophonic, but it is reproduced in both surround speakers.

OPERATION

USING THE M17 – MAIN MENU

DOLBY PRO LOGIC IIx

Dolby Pro Logic IIx processes both stereo and 5.1 signals into a 6.1 or 7.1 channel output. At Dolby Pro Logic IIx, you can choose PLIIx Movie or PLIIx Music modes to tailor your listening experience to the source material. Dolby Pro Logic IIx surround processing yields more stable imaging and full bandwidth sound to the rear channels in Movie mode offering sound that is more similar to Dolby Digital decoding. For two channel signals, PLIIx Music mode also features three additional user controls - Dimension, Center Width, and Panorama. See also section about "Adjusting Listening Modes" below.

The following chart shows the channels available assuming they are enabled in the "Speaker Configuration" menu:

Listening Mode Two-Channel Sources	Active Decoded Output Channels	
	6.1 Speaker System	7.1 Speaker System
PLIIx Music PLIIx Movie	Front (left, right), Center, Surround (left, right), Back Surround, Subwoofer	Front (left, right), Center, Surround (left, right) and Back Surround (left, right), Subwoofer

DTS NEO: 6

Two-channel recordings, whether stereo or surround-encoded, are reproduced with Neo: 6 surround with output to front left/right, center and discrete left/right surround channels plus subwoofer (assuming these are present in the current "Speaker Configuration"). The M17 provides two DTS Neo: 6 variations - NEO:6 Cinema and NEO:6 Music. See also section about "Adjusting Listening Modes" below.

EARS

Two-channel recordings, whether stereo or surround-encoded, are reproduced with proprietary NAD surround processing with signals 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).

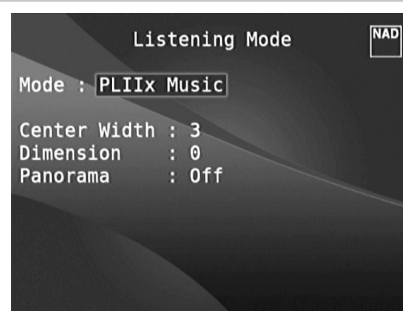
EARS extracts the natural ambience present in nearly all well-produced stereo recordings. It does not synthesize any ambience or other sonic elements and thus remains truer to the sound of the original musical performance than most other music-surround options.

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 and Back speakers can be turned ON/OFF as desired.

ADJUSTING LISTENING MODES



Several of the M17's listening modes have one or more selectable variations and adjustable parameters that you can modify to suit your system or personal preferences.

NOTE

Listening Mode parameter changes are maintained when you change listening modes. You may also save a modified Listening Mode for easy recall by saving it to a Preset (See "A/V Presets" below under Setup Menu discussions).

PRO LOGIC IIx

PLIIx MOVIE is optimized for film soundtracks.

PLIIx MUSIC for music recordings

Center Width (0 to 7): Modifies the "hard-centeredness" of the center image, by gradually mixing mono center content to the Front left/right speakers as well. A setting of 0 retains the center-channel-only default while a setting of 7 yields a fully phantom center channel.

Dimension (-7 to +7): Adjusts front-rear emphasis of the surround effect independently from the relative channel levels.

Panorama (On/Off): Adds a "wraparound" effect by extending some stereo content into the surround channels.

NOTE

Pro Logic IIx mode will decode as PLII mode when the BACK surround speakers are set to "OFF" from "Speaker Configuration" menu. See also section about "Speaker Configuration" under "Speaker Setup" of the Setup Menu.

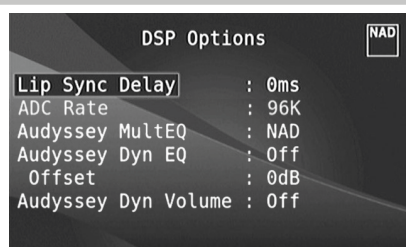
DTS NEO: 6

NEO: 6 Cinema is optimized for film soundtracks.

NEO: 6 Music for music recordings

Center Gain (0 to 0.5): Adjust for better center image in relation to the surround sound channels.

DSP OPTIONS



The following signal processing parameters can be setup under the DSP (Digital Signal Processing) Options menu.

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.

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.

AUDYSSEY MultEQ

Audyssey MultEQ becomes available among the DSP options only after successfully completing Audyssey Auto Calibration (accessible through the Setup Menu). Refer also to Audyssey Auto Calibration segment of the Speaker Setup under Operation - Using the M17 - Setup Menu.

Audyssey MultEQ can be set to the following levels

Audyssey: Audyssey developed target curve.

Flat: This setting is appropriate for very small or highly treated rooms in which the listener is seated quite close to the loudspeakers. MultEQ filters are used in the same way as the Audyssey curve, but it does not apply a high frequency roll-off.

NAD: Ideal "in room" response developed by NAD engineers along with Audyssey Engineers.

Off: MultEQ filters are not used or no measurement process at all.

AUDYSSEY DYN EQ (AUDYSSEY DYNAMIC EQ)

Audyssey Dynamic EQ solves the problem of deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. By carefully combining information from incoming source levels with actual output sound levels in the room, Audyssey Dynamic EQ delivers unprecedented sound reproduction at all volume levels.

Audyssey Dynamic EQ selects the correct frequency response and surround volume levels moment-by-moment. The resulting bass response, octave-to-octave balance and surround impression remained the same despite changes in volume.

Audyssey Dynamic EQ is designed to work in conjunction with Audyssey MultEQ. Dynamic EQ determines the proper loudness compensation based on the sound pressure level measurements MultEQ provides. Audyssey Dynamic EQ working in tandem with Audyssey MultEQ provides the right listening conditions for every listener at any volume level.

On: Activate Audyssey Dynamic EQ function.

Off: Defeat Audyssey Dynamic EQ function.

Offset: Adding a Volume Offset will have the effect of reducing the amount of boost applied by Dynamic EQ, for any given volume setting. As a consequence, the amount of overall digital attenuation required is also reduced. For example, with the Offset set to 10dB, and a volume setting of -30.0dB, the loudness curve selected will be for a volume level of -20.0dB.

The offset level can be set from 0dB to 15dB.

AUDYSSEY DYNAMIC VOLUME

Audyssey Dynamic Volume delivers consistent volume playback levels, anticipating sudden spikes and dips in volume and compensating for them in real time. Audyssey Dynamic Volume monitors the volume of program material moment-by-moment, maintaining the desired listening level for all content while optimizing the dynamic range to preserve the impact.

Audyssey Dynamic Volume includes Audyssey Dynamic EQ, which compensates for deteriorating sound quality as volume is decreased by taking into account human perception and room acoustics. These two technologies enable the full frequency response of the source at its original level to be reproduced at any listening level. Even at lower listening volumes, Dynamic Volume ensures that the richness and dynamics of the response are maintained.

Audyssey Dynamic Volume can be set to the following levels

Light: Provide the least adjustment to the loudest or softest sound level.

Medium: Setting that prevents loud and soft sound from being much louder than their respective average sound levels.

Heavy: Affect volume the most by causing all sound to be of equal loudness.

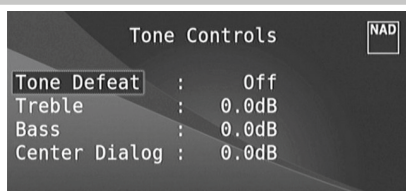
IMPORTANT NOTES

- *Audyssey Dynamic EQ must be set to "On" to activate Audyssey Dynamic Volume. If Audyssey Dynamic EQ is set to "Off", Audyssey Dynamic Volume will also remain "Off".*
- *If Audyssey Auto Calibration is not set up, the relative balance of your system's loudspeakers has to be manually adjusted (with the aid of a SPL meter) for Audyssey Dynamic Volume and Audyssey Dynamic EQ to be effective. If the speakers are not properly calibrated, the corresponding Audyssey Dynamic Volume and Audyssey Dynamic EQ responses could be distorted. Refer also to the item about "USING SPL METER" in the SPEAKER LEVELS section below.*

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 VFD) 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 [◀/▶/Δ/▽] keys. The same can be managed directly by pressing the front panel’s “Tone” display and then press and slide “●” to adjust treble, bass or dialog level.

Maximum and minimum values for all three 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 VFD) is selected, the Tone Control circuits are active.

Select “On” (“Tone Defeat” in the VFD) to bypass the Tone Controls effectively defeating the effect of the tone control circuits.

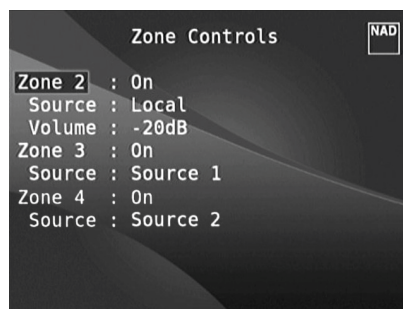
NOTE

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 [Δ/▽] 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.



Select “On” to activate the applicable Zone. When activated, the Source input for the particular Zone can be allocated by selecting through the following inputs – All enabled Sources and Local.

Select “Local” as your selected Zone’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.

If a Zone is set to “Off”, it is deactivated or powered off.

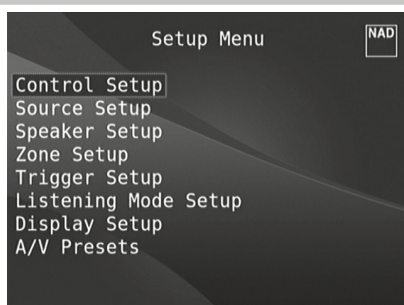
“Volume” refers to the adjustable secondary Zone 2 Volume level that can be increased or decreased using the [Δ/▽] buttons of the HTRM 2.

Zone 2 is always available to be configured at “Zone Controls” menu. For Zone 3 and Zone 4 to become available at the “Zone Controls” window, their corresponding “Mode” in the “Zone Setup” menu under the “Setup Menu” section should be set to “Zone (Audio Only)”.

NOTES

- 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 4” is audio only and not associated with any video input sources.

SETUP MENU



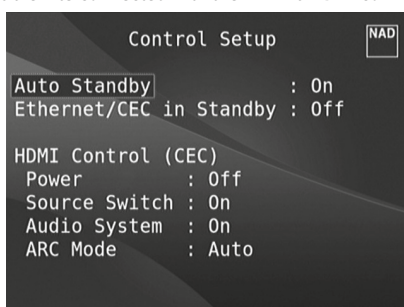
The Setup Menu allows one to customize the operation of the M17 to the ancillary equipment used in one's specific AV system. Unless your system exactly matches the factory defaults as shown in the accompanying Quick Setup Guide, you will need to use the setup menu to configure the inputs of the M17.

At Setup Menu, the following are configurable – Control Setup, Source Setup, Speaker Setup, Zone Setup, Trigger Setup, Listening Mode Setup, Display Setup and A/V Presets.

To access and navigate through Setup Menu and its sub-menu selections, please follow the directions stated in the sections "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

On: M17 will go to standby mode automatically if there is no user interface interaction within 30 minutes.

Off: M17 remains active even if there is no user interface interaction is detected.

ETHERNET/CEC IN STANDBY

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). CEC feature is effectively defeated.

On: Enable HDMI Control (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).

Ethernet connection is established when the NAD AVR Remote App is activated and connected to the same network as the M17. Under this condition, "Ethernet/CEC in Standby" will automatically turn from "Off" to "On", will remain "On" and cannot be changed from "On" to "Off". The On/Off options of "Ethernet/CEC in Standby" can be selectable again by deactivating or disconnecting the NAD AVR Remote App from the network.

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: 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 MONITOR 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. 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

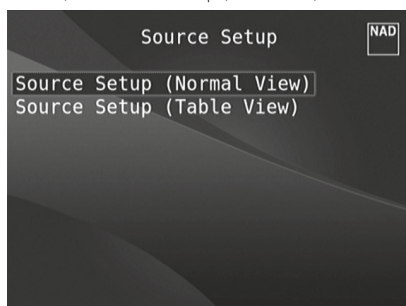
- "Audio System" must be set to "On" for "ARC mode" to manifest as an option.
- Audio and video will continuously stream from the HDMI source with CEC to the TV with CEC even if the M17 is at standby mode.

OPERATION

USING THE M17 – SETUP MENU

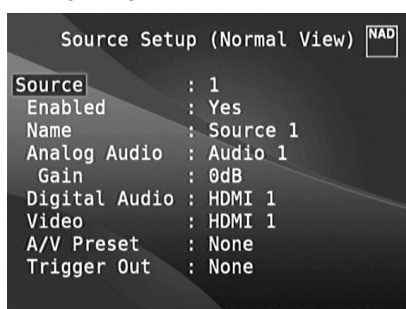
SOURCE SETUP

There are two sub-menu items under Source Setup. These are Source Setup (Normal View) and Source Setup (Table View).



SOURCE SETUP (NORMAL VIEW)

The Source Setup (Normal View) menu makes it possible to set, allocate or change the following settings.



SOURCE

All available Sources are configurable. A particular Source can be enabled or disabled, renamed, assigned analog and digital audio sources, video sources, A/V Presets, Trigger settings among other settings.

These settings can be implemented through the following parameters.

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 display options, bypassing unused sources.

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".

In order to rename the Source label, scroll to the "Name" parameter. Press [▷] to go to the first character. Then, press [Δ/▽] 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 VFD as well as on the OSD.

ANALOG AUDIO

All available analog audio input can be variably assigned to any of the Sources.

Scroll to "Analog Audio", press [▷] and then [Δ/▽] to select and assign an analog audio input to the particular Source. There are two choices - Audio or Off.

When "Audio" is chosen, press [▷] and then [Δ/▽] to select and assign the desired audio input -1 to 7.

If "Off" is selected, no incoming analog audio signal is selected by the particular Source. Note that when "Analog Audio" is set to "Off", "Gain" will not be enabled as an option.

NOTE

An incoming digital signal present at the assigned digital input will always take precedence over the assigned analog audio input, even 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.

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 "Gain", press [▷] and then [Δ/▽] to step through the desired level from -12dB to 12dB.

Note that when "Analog Audio" is set to "Off", "Gain" will not be enabled as an option.

DIGITAL AUDIO

To take advantage of the M17's high performance surround and digital audio circuitry, it is advisable that its sets of Digital Audio input are selected.

There are three types of Digital Audio input for the M17. These are HDMI, Optical and Coaxial digital input. A fourth option is "Off" whereby no incoming digital audio signal is selected by the particular Source.

The desired digital audio input for a particular Source can be selected by scrolling to "Digital Audio", press [D>] and then [Δ/▽] to step through the desired digital input source. After finalizing the desired type of Digital Audio input, press [D>] and then [Δ/▽] again to select the specific Digital Audio input.

The following are the sets of assignable Digital Audio input:

HDMI → HDMI 1-6
Optical → Optical 1-4
Coaxial → Coaxial 1-4

NOTE

An incoming digital signal present at the assigned digital input will always take precedence over the assigned analog audio input, even 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.

VIDEO

There are three types of video input a particular Source could be assigned. These are HDMI, Component and Video input. Another option is "Off". Select "Off" if it is intended not to assign any video input to a particular Source.

Navigate through the Video input selections by pressing [D>] and then [Δ/▽] to step through the selections. The following are the sets of assignable Video input.

HDMI → HDMI 1-6
Component Video → Component 1 - 2
Video → Video 1 - 3

IMPORTANT NOTE ABOUT THE VIDEO PERFORMANCE OF M17

The M17 utilizes an NAD-engineered field-programmable gate array (FPGA) that is capable of enabling the conversion of analog video to digital video. This allows a single cable connection to your TV for all sources while maintaining the source's native resolution. Interlaced video is converted to progressive scan over HDMI allowing complete compatibility with latest HD TVs.

The M17 also supports HDMI 1.4a features that include compatibility with a broad range of 3D and HD digital video sources and displays.

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).

Scrolling to "A/V Preset" and by pressing [D>] and then [Δ/▽], a Source could be assigned a Preset number ranging from Preset 1 to 5.

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

TRIGGER OUT

Trigger Out feature 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: 1 → 2 → 1 + 2 → 3 → 1 + 3 → 2 + 3 → 1+2+3

These combinations are dependent upon the assignment of "Source Setup" for Trigger 1 Out, Trigger 2 Out or Trigger 3 Out at the "Trigger Setup" menu.

Another option is "None" whereby the particular Source is not assigned any Trigger Out.

For "Trigger Out" to become enabled and assignable at "Source Setup (Normal View)" menu, make sure to carry out or note the following beforehand

- In the separate "Trigger Setup" menu, assign Trigger 1 Out, Trigger 2 Out or Trigger 3 Out to "Source Setup."
- "Trigger Out" will not appear as an option at the Source Setup (Normal View) menu if at the separate "Trigger Setup" menu, Trigger 1 Out, Trigger 2 Out or Trigger 3 Out are all assigned to "Main, Zone 2, Zone 3, Zone 4, Zone 2+3+4, Main + Zone 2, Main + Zone 3, Main + Zone 4 or Main + Zone 234"; with not even one "Trigger Out" port allocated to "Source Setup."

SOURCE SETUP (TABLE VIEW)

The Source Setup (Table View) reflects the settings made in the Source Setup (Normal View) menu. All the Source settings are summarized and displayed in tabulated form in the Source Setup (Table View).

	Audio	Vid	P	Trg	Name	
1	A1	H1	H1	-	---	Source 1
2	A2	H2	H2	-	---	Source 2
3	A3	H3	H3	-	---	Source 3
4	A4	H4	H4	-	---	Source 4
5	A5	O1	V1	-	---	Source 5
6	A6	O2	V2	-	---	Source 6
7	A7	C1	V3	-	---	Source 7
8	-	O3	C1	-	---	Source 8
9	-	C2	C2	-	---	Source 9

(Press ENTER to Disable)

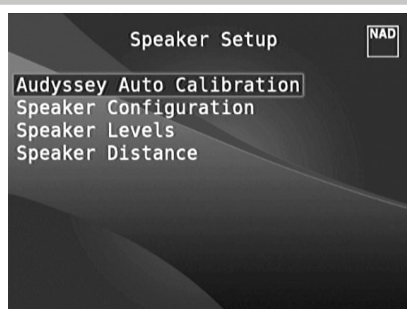
Navigating through the Source Setup (Table View) via a combination of [Δ/▽] and then [Δ/▽] buttons, one will have the benefit of directly changing the settings for "Audio", "Video", "Preset", "Trigger" and "Name" without going back to the Source Setup (Normal View) menu.

Highlight a particular Source number and then, toggle [ENTER] button to enable or disable said Source number.

OPERATION

USING THE M17 – SETUP MENU

SPEAKER SETUP



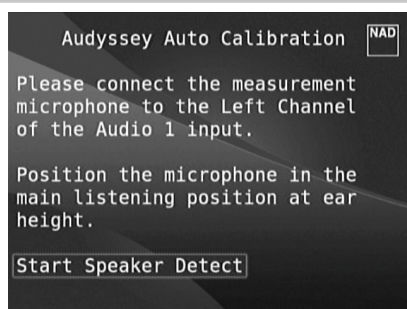
After connecting all ancillary sources and other combinations, the Speaker Setup menu will guide you on how to manage and setup your speakers in order to achieve optimum sound acoustics in your listening environment.

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.

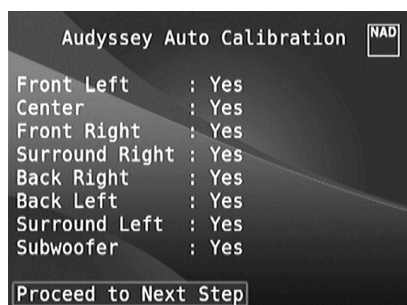
AUDYSSEY AUTO CALIBRATION



It has been shown that many, if not most, surround sound systems are not accurately setup and calibrated. To conduct properly, calibration requires special knowledge and instrumentation that the average person probably doesn't possess.

The Audyssey Auto Setup and Calibration featured in M17 uses a microphone, along with sophisticated digital electronics built into your M17, to automatically setup and calibrate the M17 to the exact speakers and speaker placement of your own unique Home Theatre.

The Left Channel of AUDIO 1 IN is the assigned port where the supplied 3.5mm female jack to RCA plug Adapter can be connected. Plug in the Audyssey microphone into the adapter for Audyssey Auto Calibration.



The following measurements are performed:

- **Detection:** Speaker configuration is detected including number of surround speakers and whether a subwoofer and center channel is connected.
- **Size:** M17 crossover is set based on each channel's signal handling capability and the subwoofer crossover is automatically set.
- **Level:** SPL of each speaker is matched within 1dB at the microphone position.
- **Distance:** This is accurately set to within 1 foot (30 centimeters) of the microphone for each speaker position.
- **Polarity:** The setup program will detect and notify the user if any speakers are connected improperly. Incorrect polarity can ruin the illusion of realism offered by surround sound.

This is a one-time set up, unless speakers are moved or changed, in which case the calibration should be performed again.

AUDYSSEY MultEQ XT ROOM ACOUSTICS CORRECTION

Sound reflecting from room boundaries can disturb the spatial illusion of surround sound, and can also distort the tonal balance of the system. Professional Acoustical Engineers often add wall treatments and even move walls and relocate speakers to improve system performance, but for the average Home Theatre, this is either too expensive or just not a practical solution.

Audyssey MultEQ XT features adaptive low-frequency correction and uses 16x high-resolution equalization filters for satellites and subwoofers. Using multiple measurements from actual listening positions, and processing this information with sophisticated digital signal processing, Audyssey MultEQ XT is able to "precondition" the signal to effectively make the walls disappear. This creates a "family size" sweet spot where the sound and spatial cues are very accurately reproduced.

The Audyssey Auto Calibration wizard will guide you through a simple step-by-step configuration. Once setup and calibrated, the next greatest improvement in performance is obtained by eliminating the acoustic interference caused by room boundaries interacting with your speakers.

MEASUREMENT IS THE FIRST STEP

The sound at each listening position (up to 8 positions) is calibrated using the same microphone used during the setup phase.

A special test tone is sent to each speaker and the data is memorized by the M17. The duration of calibration may take some time depending on the number of speakers as well as the number of measuring points. After all positions are measured, the DSP calculates the ideal system response for your particular room and speaker setup.

If some inconsistencies or discrepancies are detected during the Audyssey calibration, the process maybe interrupted or the problem is shown in the particular setup window. A notice screen is correspondingly displayed. After following and undertaking the displayed instructions, re-start the Audyssey calibration again. When the measurements are finalized, Audyssey calculates the ideal system response for your particular room and speaker setup.

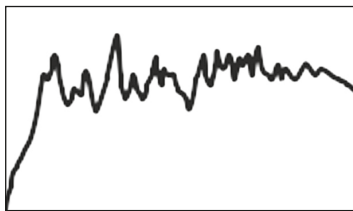
NOTE

The test tone emitted during measurement is loud. If you cannot withstand the test tone level, it is advisable that you stay away from the room or location where the speakers are being calibrated. Return to the room or location after each calibration to change the microphone's position or to finalize the calibration.

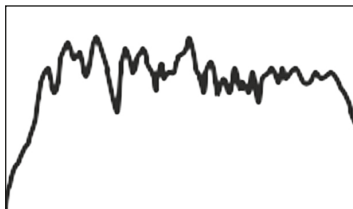
NEXT A TARGET CURVE MUST BE CHOSEN

Because loudspeaker designers assume that their products will be used in typical domestic rooms, they are “voiced” to work in this environment. It is assumed that the room will add some bass reinforcement and will absorb some treble energy. Thus if we effectively “remove the walls” with room correction, and set the speakers for flat response, you may find this sounds too bright in the treble and too weak in the bass region.

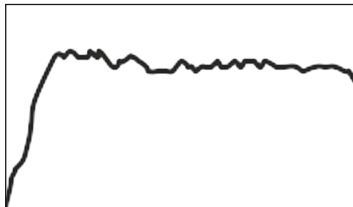
NAD engineers have done extensive research in this area of room acoustics, and along with Audyssey engineers developed what we believe is the ideal “in room” response curve. We include this NAD EQ, along with an Audyssey developed EQ as the two best choices. The response curves shown below typify NAD EQ room correction process.



Room Response measured by Audyssey microphone



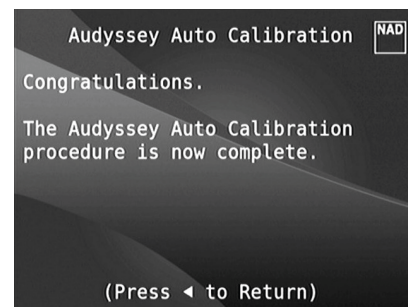
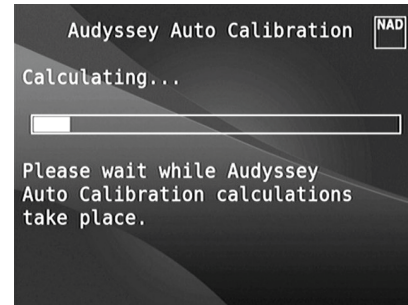
Inverse Correction Filter calculated by NAD M17



Corrected Room Response

Flat EQ is a third option, but not one that we recommend for listening (it is useful for verifying system performance when using external instrumentation).

Select the Target Curve you find to be most satisfactory by pressing the Audyssey key of the remote. The MultEQ XT corrected response can also be bypassed if you wish.



It is recommended that you take full advantage of the M17's Audyssey Auto Calibration feature for your speaker setup. However, if you desire to setup your speakers manually or if you already had run Audyssey Auto Calibration but would like to make adjustments, the following sections on Speaker Configuration, Speaker Levels and Speaker Distance can also be followed and implemented.

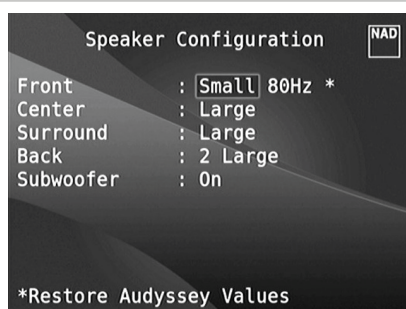
NOTE

During manual setting of your speakers, previously calibrated Audyssey settings could be retrieved by re-adjusting back the altered configurations as highlighted by an asterisk.

OPERATION

USING THE M17 – SETUP MENU

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 “Surround” setup item to “Off”.

The Speaker Configuration is “global”; that is, it remains in force with all input and 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 [D] and then [Δ/▽] keys. Set “Front,” “Center” and “Surround” to “Large,” “Small” (40Hz to 200Hz) or “Off” as your subsystem’s speakers require.

The “Back” speakers can either be one or two speakers. Set “Back” to either 1 or 2 speakers as per 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”.

ENHANCED BASS

When the subwoofer is set to “On” and “Front” is set to “Large,” the option “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.

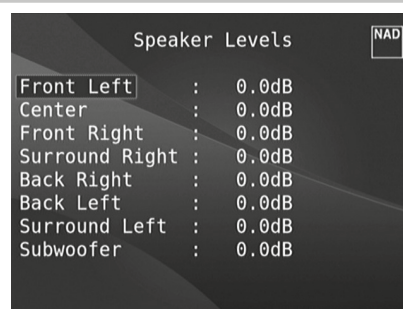
You can set Subwoofer to “On” even with “Large” front speakers, in which case bass content from any channels set to “Small” will be routed to both the subwoofer and to the front speakers; LFE-channel signal will pass only to the sub. In most subwoofer-equipped systems, setting front speakers to “Small” 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 Preset setting. Please see also the section ‘AV 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 AT 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” appears to the right side of the current speaker), beginning with the Front Left. If you do not hear the test signal, check your speaker connections or your “Speaker Setup” OSD menu settings.

Use the remote’s [Δ/∇] 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.

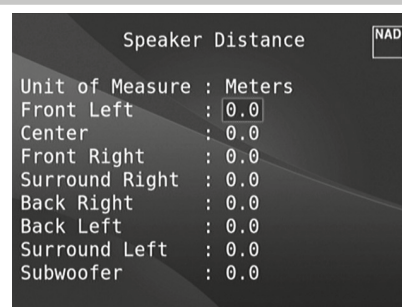
To produce the same SPL meter reading (or subjective loudness), use the remote’s [Δ/∇] keys to adjust each speaker.

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.

SPEAKER DISTANCE

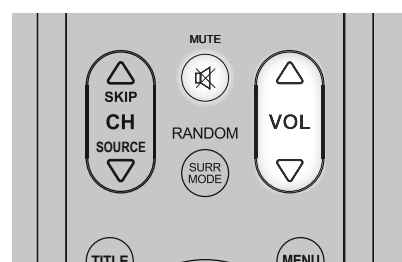


Your system’s speaker distance settings are a subtle but important refinement of your setup. Informing the M17 of the loudspeaker-to-listener dimensions of each speaker automatically imposes the correct delays, optimizing imaging, intelligibility and surround-sound ambience. Enter your dimensions with precision within about 1 foot (30 cm).

SETTING SPEAKER DISTANCE

While at “Speaker Distance” menu, use the [Δ/∇] keys to individually set Front Left, Center, Front Right, Surround Right, Back Right, Back Left, Surround Left and Subwoofer to the distance measuring from your principal listening position to the front surface of their corresponding loudspeakers. 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.

ADJUSTING THE VOLUME



In addition to the Volume knob, use the HTRM 2’s [VOL Δ/∇] to adjust the “master volume” of the M17 raising or lowering the channels altogether. A momentary key press will change the master volume by 0.5dB increments. If you hold down [VOL Δ/∇], 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 -20.0 dB may sound “as loud” from one CD or DVD as -10.0 dB 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 -20.0 dB, the M17 will power up at -20.0 dB. 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.

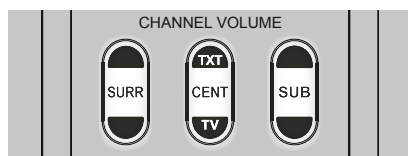
NOTES

- Changing input or listening-mode selections does not release muting.
- Pressing HTRM 2’s [VOL Δ] or rotating the front panel volume knob clockwise will automatically release the mute function.

OPERATION

USING THE M17 – SETUP MENU

ADJUSTING CHANNEL LEVELS “ON THE FLY”



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.

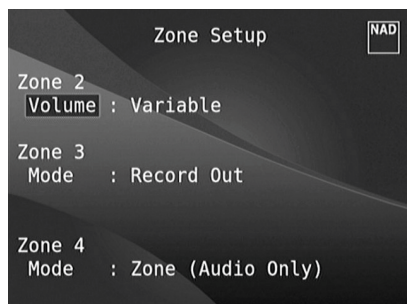
Use the HTRM 2’s “SURR”, “CENT” and “SUB” keys for direct-access level adjustment of these channels over a range of ± 6 dB.

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

NOTE

Level settings adjusted “On the Fly” are added or subtracted to the setup levels established at the M17 level-calibration routine as invoked by the HTRM 2 [Test] key. However, selecting any Preset will revert the channel levels to those stored in the preset. It will also take M17 off the levels set via Audyssey Auto Calibration.

ZONE SETUP



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

The M17 has three configurable Zones – Zone 2, Zone 3 and Zone 4. Use a combination of [$\triangleleft/\triangleright/\triangle/\nabla$] and [ENTER] keys to navigate through the Zone Setup menu parameters.

VOLUME

Zone 2 have Fixed and Variable volume control. When set to “Variable” and while at the “Zone Controls” menu OSD, the Zone 2 Volume level can be adjusted using the HTRM 2’s [$\triangle/\nabla$] or directly via ZR 7’s [VOL $\wedge/\vee$].

On the other hand, if Volume is set to “Fixed”, the Zone 2 Volume is set to a preset dB level and thereafter the Zone’s volume can be varied via the volume control of the separate amplifier it is fed into.

MODE

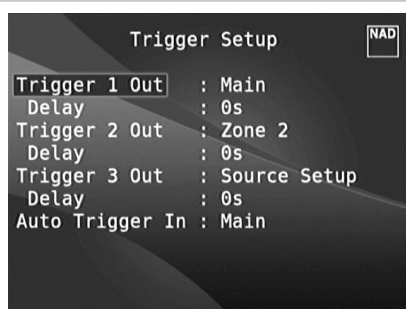
Zone 3 and Zone 4 can be configured into two modes - Record Out and Zone (Audio Only). If the selected mode is “Record Out”, the audio of the assigned Source is directly sent out to the applicable Audio output. When Zone 3 or Zone 4 is set to “Record Out” mode, they will not be available at the “Zone Controls” section of the Main Menu window.

See discussion also on “Zone Controls” at the Main Menu.

NOTE

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

TRIGGER SETUP



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 is also available to turn on the applicable link it is associated to. Use a combination of [◀/▶/△/▽] and [ENTER] keys to navigate through the Trigger Setup menu parameters.

TRIGGER OUT

Triggers are low voltage signal used to turn on/off other compliant devices. The M17's three +12V DC Trigger Output (Trigger 1 Out, Trigger 2 Out and Trigger 3 Out) are dependent upon the mode they are associated with. The following are the choices where +12V DC output can be assigned.

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

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

Main+Zone 2, Main+Zone 3, Main+Zone 4, Main+Zone 234 :

+12V DC is available from Trigger Out when either the M17 or the applicable Zone is powered up.

Source Setup: If Trigger Output is linked to "Source Setup", +12V DC is available at Trigger Out whenever the particular assigned Source is selected. Please see also separate discussion about "Trigger Out" under the Source Setup (Normal View) 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 "On" and vice versa. When the +12V TRIGGER IN switch at the rear panel is set to AUTO, a +12V DC input at Trigger IN will power ON the section where Trigger IN is assigned.

Main: From standby mode, the M17 is powered ON when +12V DC is applied at Trigger IN.

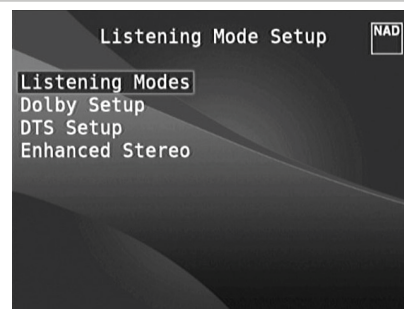
Zone 2, Zone 3, Zone 4: Applicable Zone is turned ON whenever +12V DC is present at Trigger IN.

All: Main, Zone 2, Zone 3 and Zone 4 as described above will all be activated given a +12V DC input at Trigger IN.

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 an external controller. Slide to "OFF" the +12V TRIGGER IN switch to maintain normal power ON/OFF function procedures.

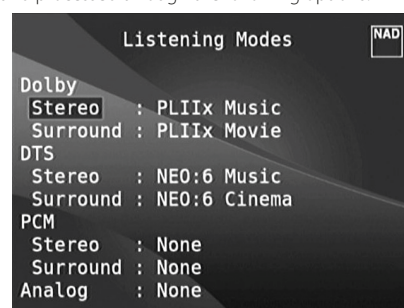
LISTENING MODE SETUP



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. Use a combination of [◀/▶/△/▽] and [ENTER] keys to configure the following settings.

LISTENING MODES

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



DOLBY

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 one of the following settings - Pro Logic, PLIIx Movie, PLIIx Music or None.

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

None: If "None" is selected, the Dolby Digital signal will be defaulted to the "Stereo" or "Surround" settings set forth at the "PCM" option. See discussion below about "PCM"

OPERATION

USING THE M17 – SETUP MENU

DOLBY DIGITAL PLUS

Dolby Digital Plus is the next-generation audio technology for all high-definition programming and media. It combines the efficiency to meet future broadcast demands with the power and flexibility to realize the full audio potential expected in the upcoming high-definition era.

Dolby Digital Plus delivers multi-channel audio programs of up to 7.1 channels and supports multiple programs in a single encoded bit stream with the maximum bit rate potential of up to 6 Mbps and the maximum bit rate performance of up to 3 Mbps on HD DVD and 1.7 Mbps on Blu-ray Disc. It outputs Dolby Digital bit stream for playback on existing Dolby Digital systems. Dolby Digital Plus can accurately reproduce the sound originally intended by directors and producers.

It also features multi-channel sound with discrete channel output, interactive mixing and streaming capability in advanced systems. Supported by High-Definition Media Interface (HDMI), a single-cable digital connection is possible for high-definition audio and video.

DOLBY TrueHD

Dolby TrueHD is a lossless encoding technology developed for high-definition optical discs in the upcoming era. Dolby TrueHD delivers tantalizing sound that is bit-for-bit identical to the studio master, unlocking the true high-definition entertainment experience on high-definition optical discs in the next generation. When coupled with high-definition video, Dolby TrueHD offers an unprecedented home theater experience with stunning sound and high-definition picture.

It supports bit rates of up to 18 Mbps and records up to 8 full-range channels individually with 24-bit/96 kHz audio. It also features extensive metadata including dialogue normalization and dynamic range control. Supported by High-Definition Media Interface (HDMI), a single-cable digital connection is possible for high-definition audio and video. HD DVD and Blu-ray Disc standards currently limit their maximum number of audio channels to eight, whereas Dolby Digital Plus and Dolby TrueHD support more than eight audio channels. Note that the M17 only supports 7.1 channel.

DOLBY DIGITAL EX

Using a Matrix decoder, this method creates the back channel (sometimes also called the "surround center") by means of signals on the left and right surround channels recorded in Dolby Digital 5.1, reproduction being provided in Surround 6.1. This method should be selected with sources bearing the "Dolby Digital (double-D symbol)-EX" symbol, recorded in Dolby Digital Surround EX.

With this additional channel you will experience improved dynamics and a better sensation of movement within the sound field. If media sources recorded in Dolby Digital EX are decoded with a Digital EX decoder, the format is detected automatically, and the Dolby Digital EX mode is selected. However, some media sources recorded in Dolby Digital EX can be detected as simple Dolby Digital media sources. In this case Dolby Digital EX should be selected manually.

NOTE

Please refer to the section "Listening Mode" at the Main Menu discussions for a description of Pro Logic, PLIIx Movie, PLIIx Music and Stereo Downmix modes.

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 - NEO:6 Cinema, NEO:6 Music or None.

Surround: If the detected audio is of DTS Surround format, you can default it to one of the following settings - NEO:6 Cinema, NEO:6 Music, Stereo Downmix or None.

None: If "None" is selected, the DTS signal will be defaulted to the "Stereo" or "Surround" settings set forth at the "PCM" option. See discussion below about "PCM".

NOTE

Please refer to the section "Listening Mode" at the Main Menu discussions for a description of Stereo Downmix and DTS NEO:6 surround modes.

PCM

PCM (Pulse Code Modulation) is the digital representation of a standard audio signal converted with little or no compression. If "None" is selected for any of the Dolby or DTS settings, this "PCM" section will default the audio signal as follows

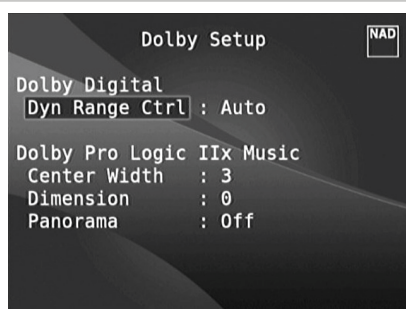
Stereo: The detected stereo audio format will be configured into one of the following options - Pro Logic, PLIIx Movie, PLIIx Music, NEO:6 Cinema, NEO:6 Music, EARS, Enhanced Stereo or None.

Surround: The detected surround audio format will be configured into one of the following options - PLIIx Movie, PLIIx Music, NEO:6 Music, NEO:6 Cinema, Stereo Downmix or None.

ANALOG

If the audio input is an analog signal, the following are the surround modes the input can be defaulted - Pro Logic, PLIIx Movie, PLIIx Music, NEO:6 Cinema, NEO:6 Music, EARS, Enhanced Stereo and None.

DOLBY SETUP



Under this menu, the Dolby Digital's Dynamic Range Control can be adjusted as well as the settings for Dolby Digital Pro Logic IIx Music.

Dyn Range Ctrl: 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".

Dolby Pro Logic IIx Music: Please refer to the same description of "PLIIx Music" under the "ADJUSTING LISTENING MODES" segment of the "OPERATION - USING THE M17 - MAIN MENU".

DTS SETUP



Under this menu, the Dynamic Range Control of DTS Digital Surround can be adjusted as well as the settings for DTS Neo: 6 Music.

Dyn Range Ctrl: 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.

DTS Neo: 6 Music: Please refer to the same description of "NEO 6: Music" under the "ADJUSTING LISTENING MODES" segment of the "OPERATION - USING THE M17 - MAIN MENU".

DTS SURROUND MODES

The following are further descriptions about the DTS surround modes.

DTS-HD MASTER AUDIO

DTS-HD Master Audio is a technology that delivers master audio sources recorded in a professional studio to listeners without any loss of data, preserving audio quality. DTS-HD Master Audio adopts variable data transfer rates, facilitating data transfer to the maximum rate of 24.5 Mbps in the Blu-ray disc format, 18.0 Mbps in the HD-DVD format, which by far exceeds that of a standard DVD. These high data transfer rates enable lossless transmission of 96 kHz/24-bit 7.1-channel audio sources without deteriorating the quality of the original sound. DTS-HD Master Audio is an irreplaceable technology that can reproduce sound faithfully as intended by the creator of music or movies.

DTS - ES EXTENDED SURROUND™ (DTS ES)

This is a new multi-channel digital format which greatly improves the 360° spatial sensation of the Surround impression thanks to the greater space expansion of the surround signals, providing high compatibility with the conventional DTS format.

In addition to the 5.1 channels, the expanded DTS-ES Surround also offers the back surround (also sometimes called the "surround center") in reproduction, providing a total of 6.1 channels. The expanded DTS-ES Surround includes two formats, with two different methods of surround signal recording, as follows:

DTS-ES™ DISCRETE 6.1

Since the signals of the 6.1 Surround channels (including the back channel) are completely independent, it is possible to achieve the sensation that the acoustic image is moving about freely among the background sounds, 360 degrees surrounding the listener.

Although maximum quality is achieved with sound tracks recorded using this system and reproduced using the DTS-ES decoder, when played with a conventional DTS decoder, the back surround channel is automatically down mixed in the surround right and surround left channels of the surround system, in such a way that none of the signal components are lost.

DTS - ES™ MATRIX 6.1

In this format, the additional signals of the back channel receive a matrix encoding and are inputted into the right and left surround channels. During reproduction they are decoded to the right, left and back surround channels.

Since this bit-stream format is 100% compatible with conventional DTS signals, the DTS-ES Matrix 6.1 format effect can also be achieved from sources with DTS-ES 5.1 signals.

Naturally, it is also possible to reproduce from a DTS 5.1 channel decoder, signals recorded in DTS-ES 6.1.

When a DTS-ES decoder processes a discrete DTS-ES 6.1 or in Matrix 6.1, these formats are automatically detected and the Optimum Surround mode is selected. However, some DTS-ES Matrix 6.1 sources may be detected as DTS. In this case the DTS-ES Matrix mode should be selected manually in order to reproduce them.

OPERATION

USING THE M17 – SETUP MENU

DTS NEO: 6™ SURROUND

This mode applies the conventional 2-channel signals such as digital PCM or analog stereo signals to the high precision digital matrix decoder used for DTS-ES Matrix 6.1 to achieve 6.1-channel surround playback. DTS Neo: 6 surround includes two modes for selecting the optimum decoding of the signal sources:

DTS NEO: 6 CINEMA: This method is ideal for the reproduction of movies. The decoding takes place by emphasizing the separation in order to achieve the same atmosphere with 2-channel, as with 6.1-channel sources.

DTS NEO: 6 MUSIC: Mainly recommended for music reproduction. The right and left front channels do not pass through the decoder and are reproduced directly so there is no loss in sound quality, and the effects of the right surround, left surround, central and back surround channels add a natural sensation of expansion of the sound field.

ENHANCED STEREO

Please refer to the same description of “ENHANCED STEREO” under the “LISTENING MODES” segment of the “OPERATION - USING THE M17 - MAIN MENU”.

DISPLAY SETUP



The “Display Setup” menu allows adjusting the brightness of the Vacuum Fluorescent Display (VFD) and availability of On-Screen Display (OSD).

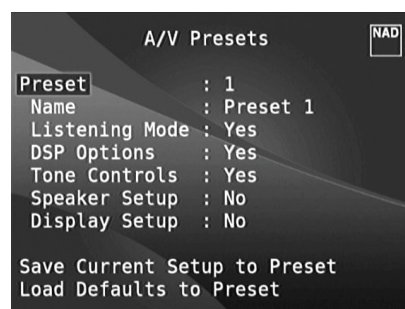
NOTE

The configurations set forth at “Display Setup” are carried over whenever it is enabled during A/V Preset setting. Please see also the section below about “AV Presets”.

Brightness: Reduce or increase brightness level of the VFD. “1” is the lowest brightness level and “3” the highest brightness setting.

Temp Disp: This applies to the OSD that is temporarily shown at video out whenever any of the front panel controls or their corresponding keys in the remote control is activated. Set to “On” if it is desired to show the applicable OSD at the monitor/TV; otherwise, select “Off”.

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 “Listening Mode”, “DSP Options” and “Tone Controls” accessible via the “Main Menu” together with “Speaker Setup” and “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.

CREATING PRESETS

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

Scroll to “A/V Presets” using the [Δ/∇] keys to save a collection of said parameter settings to a Preset. Select a Preset number and by pressing the [Δ/∇] 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”.

Now in order to save the settings chosen for the particular A/V Preset number, scroll down to “Save Current Setup to Preset” and press the [▷] key. If you chose to load instead the default settings, scroll down to “Load Defaults to Preset” and press the [▷] key to restore the default settings.

In addition to the parameter settings, the A/V Preset label itself can be assigned a new name. This new Name will be shown in the VFD 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 [Δ/∇] 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.

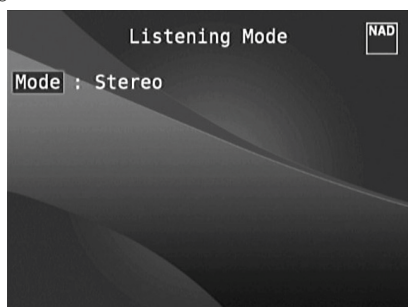
NOTE

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

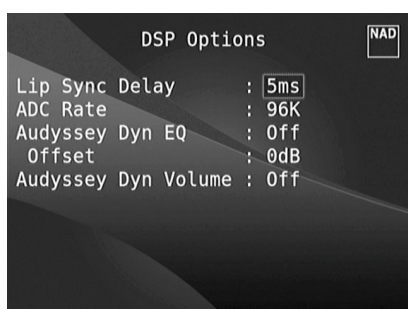
SAMPLE PROCEDURE FOR SETTING UP A/V PRESETS

- 1 Setup first your preferred settings for the following options (access them through their respective menu page).

Listening Mode: Stereo



DSP Options: 5ms



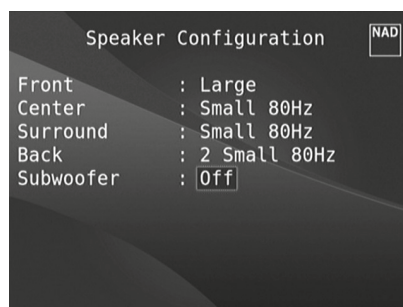
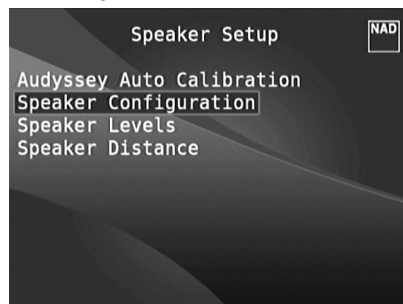
Tone Controls: Tone Defeat: On



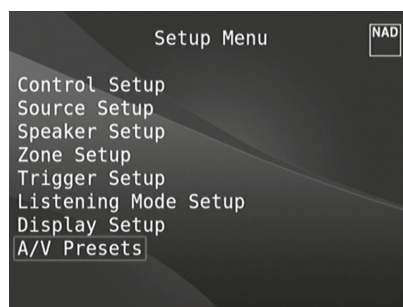
Display Setup: Set "Brightness" to "3"



Speaker Setup: from the Speaker Setup menu, go to "Speaker Configuration" sub-menu and change "Subwoofer" from "On" to "Off": "Front" becomes "Large"



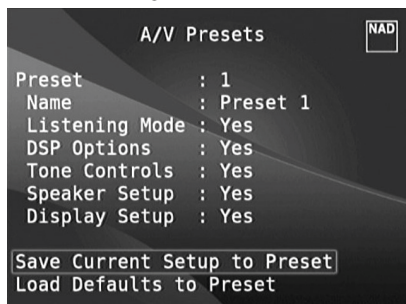
- 2 With the above settings, scroll to "A/V Presets" from the SETUP MENU page. Use [D] to access "A/V Presets" menu.



OPERATION

USING THE M17 – SETUP MENU

- 3 At "A/V Presets" page, set "Preset: 1" to the following conditions - use [Δ/∇] to select "Yes" or "No" and press [ENTER] to confirm selection and move on to the next setting.



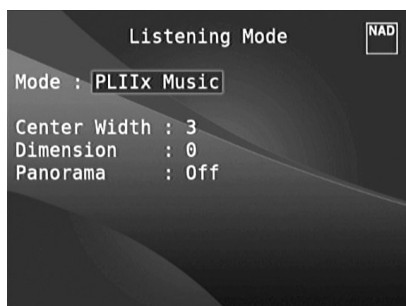
While at "Save Current Setup to Preset" menu line, use [$\triangleright$] to save the above settings to Preset 1. Below OSD will be shown, affirming that the above settings are now saved to "Preset 1".



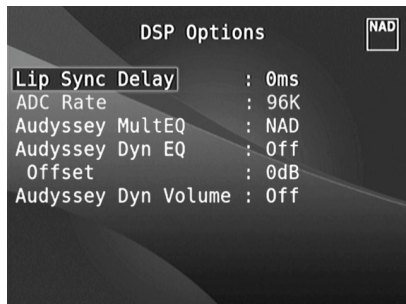
When you recall "Preset 1" using the remote control (for HTRM 2, "A/V PSET" + "1"), the above preset values allocated at "Preset 1" (preset settings as shown in the OSD captures at Step 1) will be recalled and implemented at the current source.

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

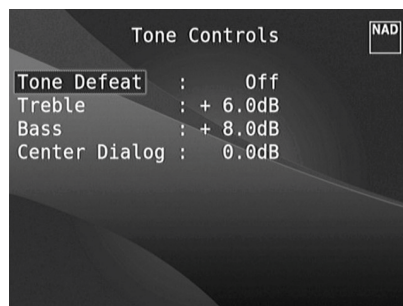
Listening Mode: PLIIx Music



DSP Options: 0ms



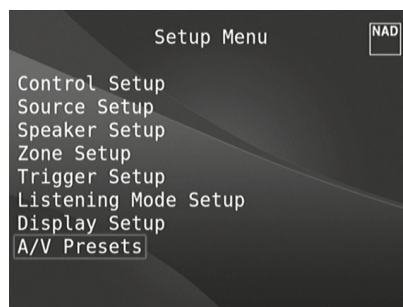
Tone Controls: Tone Defeat: Off



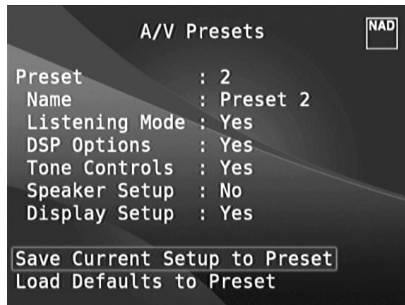
Display Setup: Set "Temp Disp" to "Off"



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



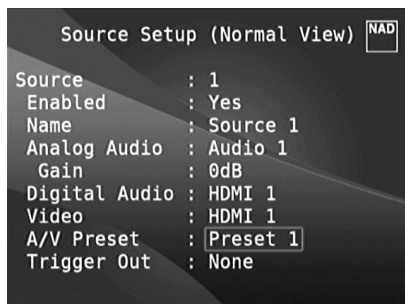
- At "A/V Presets" page, set "Preset: 2" to the following conditions - use [Δ/∇] to select "Yes" or "No" and press [ENTER] to confirm selection and move to the next setting.



While at "Save Current Setup to Preset" menu line, use [$\triangleright$] 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 implemented 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 implemented 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.

- 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 (Normal View)" window as below.



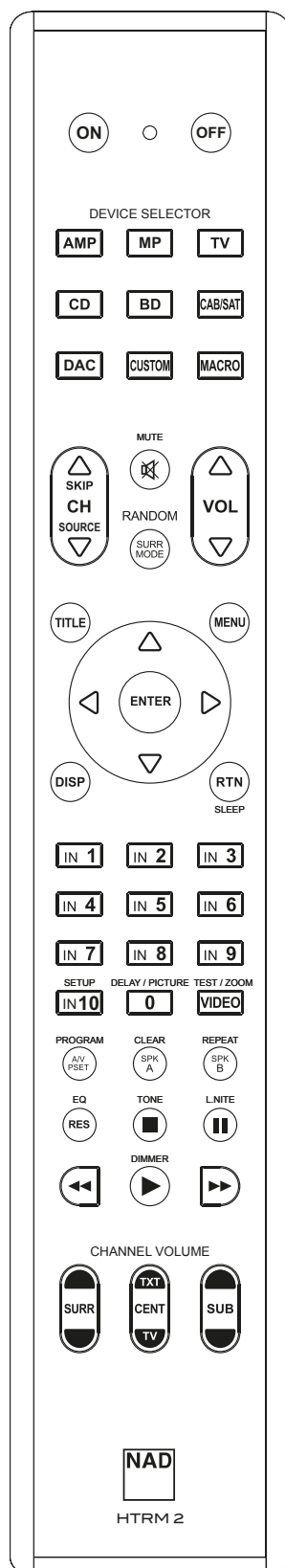
In the above example, "Preset 1" settings are allocated for Source 1. Whenever Source 1 is accessed, the "Preset 1" settings will be applied to Source 1. You can still manually override the assigned A/V Preset allocation in a specific Source with another Preset setting/number by way of pressing the appropriate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

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 Δ/▽] keys are pre-programmed as “punched-through” for all Device Selector pages: [VOL Δ/▽] 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 [Δ] 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

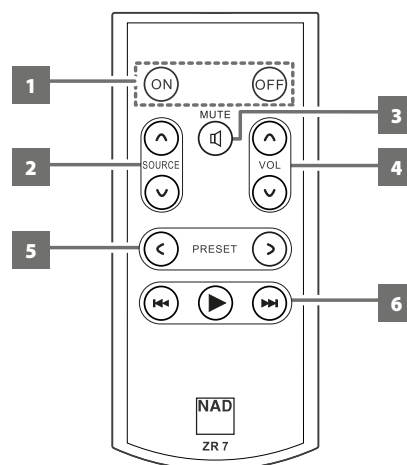
SLEEP MODE

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 the Zone feature.
- 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.
- 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.

CONDITION	POSSIBLE CAUSES	POSSIBLE SOLUTIONS
Cannot power up M17, always at standby mode.	• +12V TRIGGER IN (OFF/AUTO) switch is set to AUTO.	• Set +12V TRIGGER (OFF/AUTO) switch to OFF.
	• With +12V TRIGGER IN (OFF/AUTO) switch set to AUTO, "Auto Trigger In" at "Trigger Setup" menu is set to "Main" or "All".	• Set "Auto Trigger In" to Zone 2, Zone 3 or Zone 4.
No sound from all channels.	• AC power unplugged.	• Check AC cable connection and outlet.
	• Power not switched on.	
	• Outlet has no power.	
No sound from some channels.	• Faulty/missing cables.	• Check cables.
	• "Speaker Configuration" channel (s) set to "OFF".	• Check "Speaker Configuration" menu.
	• Power-amp connections faulty.	• Check power amplifier and cabling.
No sound from surround channels.	• No surround listening mode is engaged.	• Select appropriate listening mode.
	• Surround-channels set to "OFF" on "Speaker Configuration" menu.	• Correct "Speaker Configuration" or "Speaker Levels" settings.
	• Surround-channels level set too low on "Speaker Levels" menu.	
No sound from Subwoofer.	• Subwoofer is off, not powered or improperly connected.	• Power-up subwoofer, check Sub's AC outlet or check connections.
	• Subwoofer set to "OFF" on "Speaker Configuration" menu.	• Correct "Speaker Configuration" or "Speaker Levels" settings.
	• Sub level set too low on "Speaker Levels" menu.	
No sound from Center channel.	• Source is a 2/0 (etc.). Dolby Digital or DTS recording without center channel.	• Play a known 5.1-channel recording or select Dolby Pro Logic IIx Music mode.
	• Center set to "OFF" on "Speaker Configuration" menu.	• Correct "Speaker Configuration" or "Speaker Levels" settings.
	• Center level set too low on "Speaker Levels" menu.	
No Dolby Digital/DTS.	• Source's digital output is not connected to a M17 digital input.	• Check connections.
	• Source component not configured for multichannel digital output.	• Check source component setup.
M17 does not respond to HTRM 2 remote.	• Batteries are flat or incorrectly inserted.	• Check batteries.
	• IR transmitter window on remote or IR A/V Receiver window on M17 is obstructed.	• Check IR windows and ensure clear line-of-sight from remote to M17.
	• M17 front panel is in very bright sunlight or ambient light.	• Reduce sunlight/room lighting.

REFERENCE

SPECIFICATIONS

OVERALL SPECIFICATIONS

Line Level Input

Input impedance (R and C)	56 k Ω + 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 1/8 x 6 3/16 x 15 1/4 inches
Shipping weight	17.5 kg (38.6 lbs)

* - Gross dimension includes feet, volume knob and extended rear panel terminals.

Specifications are subject to change without notice. For updated documentation and features, please check out www.NADelectronics.com for the latest information about M17.

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