

A T H E M[®]

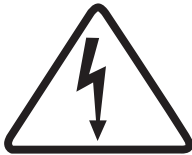
MDX-12

DISTRIBUTION AMPLIFIER



OPERATING MANUAL

SAFETY PRECAUTIONS

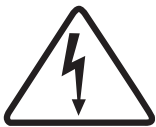


CAUTION

RISK OF ELECTRIC SHOCK DO NOT OPEN



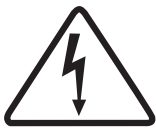
CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL



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.



WARNING: To Reduce The Risk Of Fire Or Electric Shock, Do Not Expose This Apparatus To Rain Or Moisture, And Objects Filled With Liquids, Such As Vases, Should Not Be Placed On This Apparatus.

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



CAUTION: For continued protection against risk of fire, replace the fuse only with the same amperage and voltage type. Refer replacement to qualified service personnel.

WARNING: Unit may become hot. Always provide adequate ventilation to allow for cooling. Do not place near a heat source, or in spaces that can restrict ventilation.

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with a dry cloth.
7. Do not block any of the ventilation openings.
8. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades with one wider than the other. A grounding-type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. When the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched, particularly at plugs, convenience receptacles and the point where they exit from the apparatus.
11. Only use the attachments/accessories specified by the manufacturer.
12. Use only with a cart, stand, tripod, bracket or table specified by the manufacturer, or sold with the apparatus.
13. Unplug this apparatus during lightning storms or when unused for long periods of time.
14. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
15. Do not operate this apparatus at an altitude over 6561 ft / 2000 m.

WARNING: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Avoid installing this unit where foreign objects may fall onto this unit and/or this unit may be exposed to liquid dripping or splashing. On the top of this unit, do not place:

- Burning objects (i.e. candles), as they may cause fire, damage to this unit, and/or personal injury.
- Containers with liquid in them, as they may fall and liquid may cause electrical shock to the user and/or damage to this unit.

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

Do not install this equipment in a confined space such as a case or similar. Install it away from direct sunlight, heat sources, vibration, dust, moisture, and/or cold.

Do not cover this unit with a newspaper, tablecloth, curtain, etc., in order not to obstruct heat radiation. If the temperature inside this unit rises, it may cause fire, damage to this unit, and/or personal injury.

Install this unit near the AC outlet and where the AC power plug can be reached easily.

This unit is not disconnected from the AC power source when it is turned off. This state is called the standby mode. This unit is designed to consume a very small quantity of power in this state.

NOTE: This product is not an auto voltage Amplifier. Connect only to the prescribed AC outlet, i.e., 120V 60Hz or 240V 50/60Hz.

CAUTION: The top surface can become hot.

CAUTION: These servicing instructions are for use by qualified service personnel only. To reduce the risk of electric shock, do not perform any servicing other than that contained in the operating instructions unless you are qualified to do so.

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

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

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

DO NOT LOCATE IN THE FOLLOWING PLACES:

To ensure long-lasting use, do not locate the unit:

- Exposed to direct sunlight.
- Near sources of heat such as heaters.
- Highly humid or poorly ventilated.
- Dusty.
- Subjected to mechanical vibrations.
- On wobbly, inclined, or otherwise unstable surfaces.
- Near windows where there is a chance of exposure to rain, etc.
- On top of an amplifier or other component which dissipates a great deal of heat.

To ensure proper heat radiation, ensure clearance from walls and other equipment according to diagram.

IMPORTANT INFORMATION FOR UK CUSTOMERS: DO NOT cut off the mains plug from this equipment. If the plug fitted is unsuitable for the power points in your home or the cable is too short to reach a power point, obtain an appropriate safety-approved extension lead or consult your dealer. If, nonetheless, the mains plug is cut off, REMOVE THE FUSE and dispose of the PLUG immediately, to avoid possible shock hazard by inadvertent connection to the mains supply. If this product is not provided with a mains plug, or one has to be fitted, then follow the instructions given below:

IMPORTANT: DO NOT make any connection to the larger terminal which is marked with the letter "E" or by the safety earth symbol or colored GREEN or GREEN AND YELLOW.

The wires in the mains lead on this product are colored in accordance with the following code:

BLUE – NEUTRAL
BROWN – LIVE

As these colors may not correspond with the colored markings identifying the terminals in your plug, proceed as follows:

The BLUE wire must be connected to the terminal marked with the letter "N" or colored BLACK.

The BROWN wire must be connected to the terminal marked with the letter "L" or colored RED.

When replacing the fuse, only a correctly rated and approved type should be used, and be sure to re-fit the fuse cover. If in doubt consult a competent electrician.

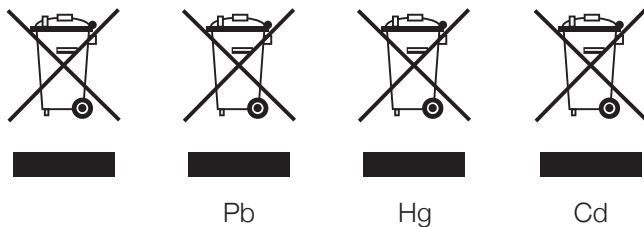
NOTES ON ENVIRONMENTAL PROTECTION

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.

RECYCLING AND REUSE GUIDELINES (Europe):

In accordance with the European Union WEEE (Waste Electrical and Electronic Equipment) directive effective August 13, 2005, we would like to notify you that this product may contain regulated materials which, upon disposal, require special reuse and recycling processing. For this reason Paradigm Electronics Inc. (the manufacturer of Paradigm speakers and Anthem electronic products) has arranged with its distributors in European Union member nations to collect and recycle this product at no cost to you. To find your local distributor please contact the dealer from whom you purchased this product or go to our website at www.paradigm.com.

Please note that only the product falls under the WEEE directive. When disposing of packaging and other shipping material we encourage you to recycle through the normal channels.



Paradigm and any related party assume no liability for the user's failure to comply with any requirements.

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INTRODUCTION

Thank you for purchasing the Anthem MDX-12. All Anthem products are engineered to recreate the passion of a live musical performance and emotional involvement experienced in the best movie theaters by utilizing the highest level of circuit design, superior parts and manufacturing techniques, innovative features, and intuitive ergonomics. We are confident that their inclusion in a system significantly enhances the enjoyment of recordings.

1.1 BEFORE MAKING CONNECTIONS

Check that you have received all items listed below and report discrepancies to your dealer as soon as possible. In case the unit needs to be transported in the future, keep the packing materials. **Retain the invoice that you received from your authorized Anthem dealer at the time of purchase – without it, service will not be provided under warranty.**

PACKING LIST

- Amplifier
- IEC power cord(s) (US type for 120V model, EU/UK/AU type for 230V model)
- 4 x feet and #6/32 screws (if tabletop operation required)
- Rack ears (if rackmount operation required)
- T10 - Torx Bit
- 6 x Euroblock connectors (preinstalled)
- 3.5 mm trigger cable
- Quick start guide

SAFETY INSTRUCTIONS

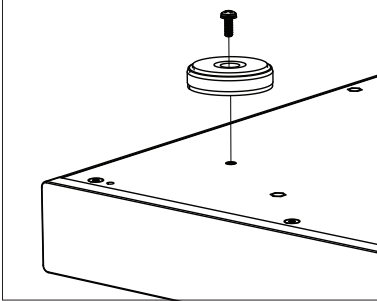
- Read all safety precautions and instructions at the beginning of this manual.
- Do not connect power if there are any signs of damage to any part of the exterior.
- The MDX-12 has no switch to disconnect the product from the AC line. Ensure that the power cord remains readily accessible at all times.
- To connect power, only use the supplied double-insulated power cord.
- Allow adequate ventilation to ensure reliable operation and to prevent overheating. The amount of space required above the unit for radiation depends on ambient air temperature and circulation. Installation inside a cabinet with a front that can be closed is not recommended unless a fan is also installed to adequately draw air away from the top of the unit.
- Failing to comply with any safety instruction, precaution, or warning in this manual is in violation of the intended use of the product.
- Anthem and any related party assume no liability for the user's failure to comply with requirements.

1.2 IN-USE NOTICES

- Disconnect the power cord before connecting or disconnecting any components.
- If the amplifier was transported or stored in the cold, let it reach room temperature before use.
- Do not remove the top cover.
- Do not modify the product.
- Due to continuing advances, operational characteristics may change.

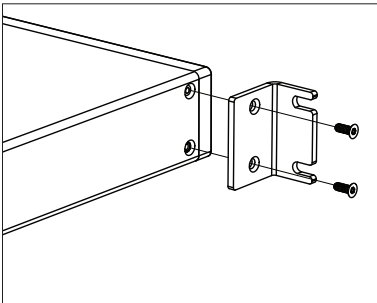
1.3 TABLE-TOP SETUP

To use the MDX-12 as a table-top unit, flip the unit on a smooth surface to avoid scratching the cover. Install the 4 feet at the bottom of the unit using the Philips head #6-32x3/8 screws and feet (included in the accessories).



1.4 RACK MOUNT SETUP

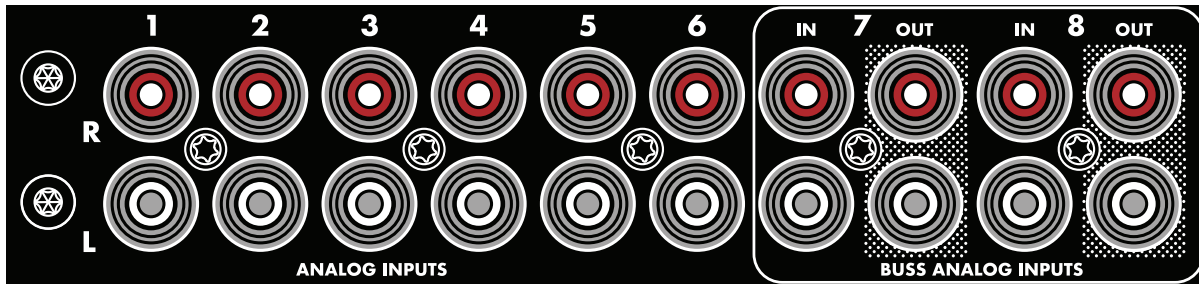
The MDX-12 can also be installed in a standard 17" rack. To install the rackmount brackets, temporarily remove the 4 screws on the side/front of the unit using the T10 Torx bit included in the accessories. Attach the brackets by re-using the same screws as shown below for the left side. Do the same for the right side. Note that the left and right brackets are different - ensure that the ears are flush with the top and bottom of the unit as shown below.



CONNECTIONS AND OPERATION

2.1 INPUT CONNECTIONS

Each zone has dedicated RCA L/R jacks, and 2 global inputs can also be selected (RCA 7 and RCA 8). The global inputs BUSS ANALOG INPUTS 7 and 8 also have a second set of output RCA jacks to avoid using an external Y-adapter.



2.2 SOURCE SELECTION

The desired source is selected by setting the INPUT switch in the proper position. Position 7 and 8 correspond to the global inputs.

2.3 VOLUME

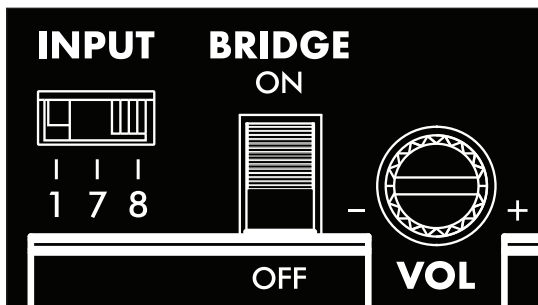
Each zone has a dedicated volume control. Adjust the volume to the desired level using your finger or a small flat screwdriver. When the slot is at the 10:30 position, the amplifier will have approximately 30 dB of gain.

2.4 SPEAKER CONNECTIONS



Depending on the input signal level, the voltage at the outputs can be high enough to cause electric shock – be sure that power is turned off when connecting or disconnecting anything. Also, be sure that the speakers are rated for use with this amplifier – an overdriven speaker can pose a fire hazard.

You can configure each zone to operate either in single-ended or bridge mode. Bridge mode doubles the output voltage but allows only one speaker to be driven. Single-ended mode is enabled by setting the BRIDGE mode to OFF (lower position). Bridge mode is enabled by setting it to the ON position (upper position). When configured in bridge mode, you only need to connect the right input.



Connect your speakers using the MDX-12 detachable terminal block and a small flat screwdriver.

For single-ended operation, ensure that your speakers' polarity matches the +/- signs shown on the L/R terminal block.

For bridge mode operation, connect the speaker – terminal to the L- position and the speaker + terminal to the R+ position.

The other 2 positions are unused.

2.5 ON MODES

The three-way switch located on the rear panel lets you set how the amplifier turns on and off. Once set to the desired mode of operation and all other connections made, connect the power cord of the amplifier to the wall outlet.



ON

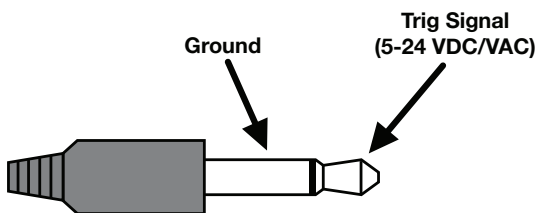
When in this position, the amplifier is always on.

AUTO

Auto (or Auto-On) turns the amplifier on when it senses an input signal (> -60 dBV or 1 mVrms) and switches off approximately 20 minutes after the input signal stops. When in Auto mode, the trigger input is also monitored, and the unit will turn on if a voltage is detected.

TRIG

Trig (or Trigger-On) allows the amplifier to be turned on or off remotely via the trigger input. To use Trigger-On, connect a standard 3.5mm (1/8") mono cable between the MDX-12 and the preamplifier or control component. When the mini-jack IN receives power (5-24 volts DC or AC) from an upstream component or system controller, the amplifier will turn on. When the voltage drops to 0V, the amplifier will turn off. The same trigger signal can be linked to trigger inputs on other units through the TRIG LOOP jack. Note that trigger operation also works when the operating mode switch is set to Auto.



2.6 CHASSIS GROUND

The MDX-12 is powered using a double-insulated power cord and, therefore does not have an earth-ground connection to avoid hum. If an earth-ground connection is required, or if connecting to another chassis ground, you can connect a wire using the thumbscrew.

2.7 FRONT PANEL



POWER LED

This LED turns blue when the amplifier is operating normally. It also indicates abnormal operation according to the codes below. In most cases, only the abnormal channel is shut down so the others can keep playing, and it resumes playing automatically once normal conditions are restored.

ZONE 1-6 LED

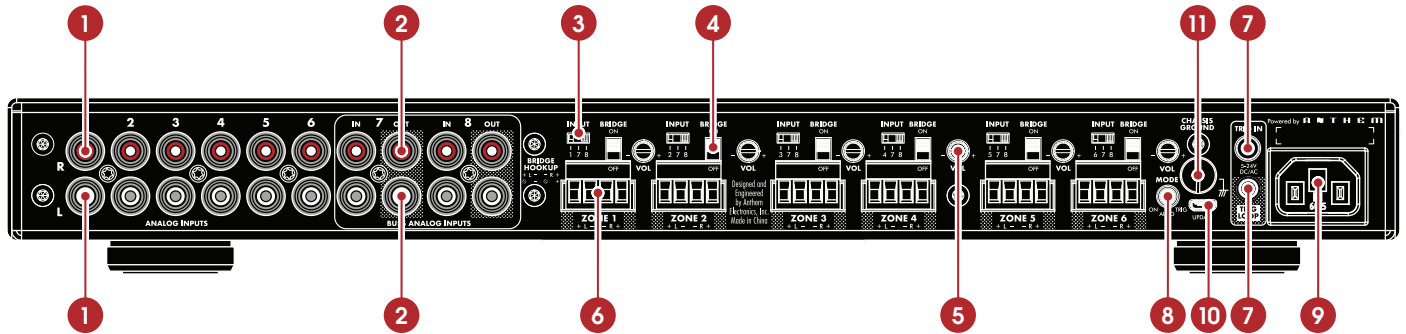
The respective LED will turn blue when a zone is on. It also indicates abnormal operation according to the codes below.

LED STATUS

OPERATING MODE	CONDITION	POWER LED	ZONE LED	ZONE AMPLIFIER
Auto	No audio detected on all zones and trigger signal is inactive	OFF	OFF	All zone amplifiers are turned off
	Audio detected on a zone or trigger signal active (if trigger signal is active, all zones turned on)	BLUE	BLUE	Zone amplifier is turned on
	No audio detected on a zone and trigger signal is inactive after 20 mins	BLUE	OFF	Zone amplifier is turned off
Always ON	No conditions	BLUE	BLUE	All zone amplifiers are turned on
Trigger	Trigger not detected	OFF	OFF	All zone amplifiers are turned off
	Trigger detected	BLUE	BLUE	All zone amplifiers are turned on
All Modes	Clipping detected	BLUE	PURPLE	Zone amplifier remains on
	Amp fault detected	BLUE	Flashing BLUE	Zone amplifier is turned off
	Zone over-temp	BLUE	Flashing RED	Zone amplifier is turned off
	PSU over-temp or PSU fault detected	Flashing RED	Flashing RED	All zone amplifiers are turned off

When AC power is first applied, a brief power-up LED test will be performed to let you check that all LEDs are working.

2.8 REAR PANEL



1. RCA inputs (1 per zone + 2 global inputs)
2. RCA outputs (2 global outputs - looped)
3. Source selection switches
4. Speaker operating mode switches
5. Volume
6. Speaker Euroblock connectors
7. Trigger input and output (looped)
8. Operating mode switch (on/auto/trigger)
9. AC inlet (IEC C18 type)
10. Micro-USB connector (for service only)
11. Chassis ground screw

SPECIFICATIONS

Warranty	3 years (parts and labor)
Channels / Zones	12 channels / up to 6 zones
Power Output RMS per Channel (8-Ohm)	75 Watts (2 channels driven)
Power Output RMS per Channel (4-Ohm)	150 Watts (2 channels driven)
High Output Mode (Bridged) RMS per Channel (8-Ohm)	280 Watts (2 channels driven)
High Output Mode (Bridged) RMS per Channel (4-Ohm)	280 Watts (2 channels driven)
Frequency Response	20Hz – 20kHz ± 0.5 dB (8-ohm load)
THD + N (1 kHz at 75W into 8-Ohms)	<1 %
Inputs (analog)	8 x RCA pairs (left & right, 6 + 2 global)
Input (trigger)	1 x 3.5mm (5 – 24V DC/AC)
Inputs (other)	Micro-USB (for service only)
Outputs (speaker level)	6 x removable Euroblock style (left & right) accommodates wire up to 12AWG
Output (analog)	2 x RCA pairs (left & right - global looped)
Output (trigger)	1 x 3.5mm (looped)
AC Voltage (model dependent)	120V ±10% ~50/60Hz 220-240V ±10% ~50/60Hz
Operational Temperature	32° F to 104° F (0° C to 40° C)
Storage Temperature Range	-22° F to 158° F (-30° C to 70° C)
Humidity Range	5% to 95% non-condensing
Rack Mount Ears & Feet	Included in accessories package
Rack Space (without feet)	1U
Dimensions (H x W x D, without feet, rack mount ears mounted, speaker terminal blocks installed)	1.75" x 19.0" x 17.0" (44.5 mm x 482.6 mm x 431.8 mm)
Dimensions (H x W x D, with feet, no rack mount ears, speaker terminal blocks installed)	2.16" x 17.0" x 17.0" (54.9 mm x 431.8 mm x 431.8 mm)
Weight	16.6 lb (7.5 kg)

LIMITED WARRANTY

CANADA & USA

The warranty period on new Anthem products is:

3 years

Please register your product at www.anthemAV.com

The warranty period begins on the date of purchase from Anthem or an Authorized Anthem Dealer. This warranty is offered only to the original owner and is not transferable. Demonstration and display units are covered by the same warranty, except that the period commences on the date of the dealer invoice, not the purchaser's invoice, and cosmetic flaws are excluded.

If Anthem determines that the product has a defect in materials or manufacturing during the warranty period, Anthem will, at its option, repair, replace or provide the necessary replacement parts without charging for parts or labor. Repaired or replaced equipment or parts supplied under this warranty are covered by the unexpired portion of the warranty.

Warranty is void if the serial number has been removed, altered or defaced if the product has been operated, installed or handled other than in accordance with the intended application, tampered with, modified, or damaged by accident, while in transport or by failure of electric power, or has been repaired by a non-authorized party. Anthem shall have no obligation to correct any defect that is not reproducible by Anthem. If inspection by Anthem discloses that the repair required is not covered by this warranty, regular repair charges shall apply.

If a problem is discovered in your Anthem product, please contact the Authorized Anthem Dealer from whom you purchased the product. Your dealer will help to determine the cause of the problem and arrange for the appropriate action. Alternatively, follow the procedure below for factory service. A Return Authorization (RA) number must be obtained from Anthem Technical Support before a product can be shipped to Anthem for any reason. Product shipped to Anthem without its RA Number clearly visible on the outside of the shipping carton will be refused and returned to the sender, freight collect. Product shipped to Anthem must have shipping and insurance prepaid by the sender, be packaged in the original carton and packing material and be accompanied by a written description of the defect. Service will not be given under warranty without an accompanying copy of the sales invoice. Product repaired under warranty will be returned with shipping and insurance prepaid by Anthem (within Canada and continental USA only).

DISCLAIMER OF LIABILITY

Under no circumstances shall Anthem, its agents, representatives or employees assume liability or responsibility for injury or damages sustained in the use or operation of Anthem products or for damages to connected products. Some jurisdictions do not allow limitations of incidental or consequential damages, so this exclusion may not apply to you.

Anthem reserves the right to make design changes without obligation to revise prior versions. All specifications are subject to change without notice. This warranty shall be the sole and exclusive remedy to you. No other warranty or condition, statutory or otherwise, expressed or implied, shall be imposed upon Anthem, nor shall any representation made by any person, including a representative or agent of Anthem, be effective to extend the warranty coverage provided herein.

On the expiration of the warranty, all liability of Anthem in connection with the product shall terminate.

INTERNATIONAL

Terms and conditions are set and maintained by the Authorized Anthem Distributor, not Anthem.



DESIGNED IN NORTH AMERICA

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www.anthemAV.com

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