

# TLP 1

OPERATING MANUAL



ANTHEM®



[www.anthemAV.com](http://www.anthemAV.com)

# SAFETY PRECAUTIONS

READ THIS SECTION CAREFULLY BEFORE PROCEEDING!

	<b>WARNING</b> RISK OF ELECTRIC SHOCK DO NOT OPEN	
<p>WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.</p>		



The lightning flash with arrowpoint within an equilateral triangle warns of 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 warns users of 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 PRODUCT TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS PRODUCT.

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

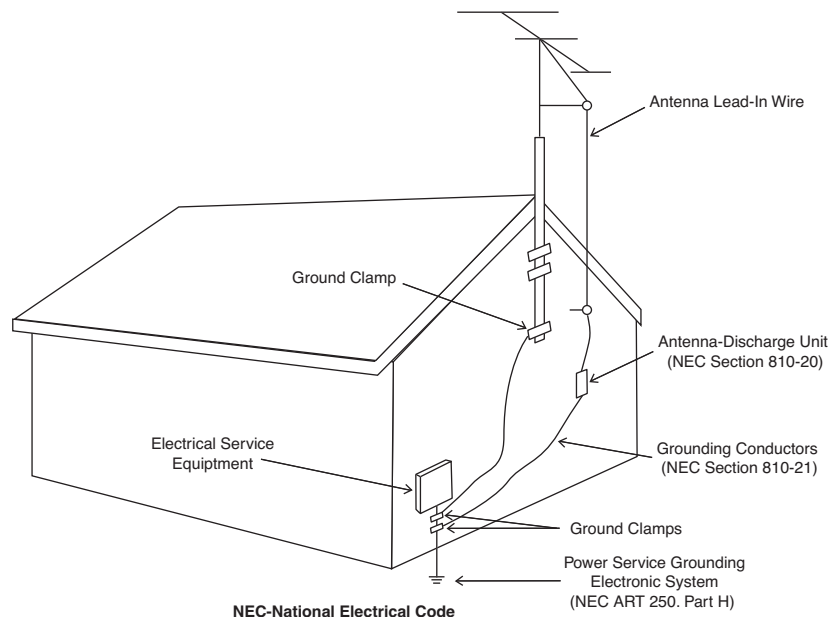
**CAUTION:** FOR CONTINUED PROTECTION AGAINST RISK OF FIRE, REPLACE THE FUSE ONLY WITH THE SAME AMPERAGE AND VOLTAGE TYPE. REFER REPLACEMENT TO QUALIFIED SERVICE PERSONNEL.

**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.

## 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, soft cloth for cleaning.
- 6. 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.
- 7. 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 manufacturer's instructions, and should use a mounting accessory recommended by the manufacturer.

8. **Ventilation** – Slots and openings in the cabinet are provided for ventilation and to ensure reliable operation of the product and to protect it from overheating, and these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should not be placed in a built-in installation such as a bookcase or rack unless proper ventilation is provided or the manufacturer's instructions have been adhered to.
9. **Power Sources** – This product should be operated only from the type of power source indicated on the marking label. If you are not sure of the type of power supply to your home, consult your product dealer or local power company. For products intended to operate from battery power, or other sources, refer to the operating instructions.
10. **Grounding and Polarization** – This product may be equipped with a polarized alternating-current line plug (a plug having one blade wider than the other). This plug will fit into the power outlet only one way. This is a safety feature. If you are unable to insert the plug fully into the outlet, try reversing the plug. If the plug should still fail to fit, contact your electrician to replace your obsolete outlet. Do not defeat the safety purpose of the polarized plug.
11. **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.
12. **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 the 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.



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13. **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 systems. This will prevent damage to the product due to lightning and power-line surges.
14. **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.
15. **Overloading** – Do not overload wall outlets, extension cords, or integral convenience receptacles as this can result in a risk of fire or electric shock.

- 16. Object and Liquid Entry** – Never push objects of any kind through openings as they may touch dangerous voltage points or short-out parts that could result in a fire or electric shock. Do not expose this product to dripping or splashing and ensure that no objects filled with liquids, such as vases, are placed on the product.
- 17. Servicing** – Do not attempt to service this product yourself, as opening or removing covers may expose you to dangerous voltage or other hazards. Refer all servicing to qualified service personnel.
- 18. Damage Requiring Service** – Unplug this product from the wall outlet and refer servicing to qualified personnel under the following conditions:
- When power-supply cord or plug is damaged.
  - If liquid has been spilled, or objects have fallen into the product.
  - If the product has been exposed to rain or water.
  - 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 require extensive work by a qualified technician to restore the product to its normal operation.
  - If the product has been dropped or damaged in any way.
  - If the product exhibits a distinct change in performance – this indicates a need for service.
- 19. Replacement Parts** – When replacement parts are required, be sure the 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.
- 20. 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.
- 21. Heat** – The product should be situated away from heat sources such as radiators, heat registers, stoves, or other products (including amplifiers) that produce heat.



**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](http://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.

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# 1. INTRODUCTION

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## **Thank you for purchasing the Anthem TLP 1 Preamplifier • Tuner.**

Anthem Electronics has been manufacturing high-quality, high-end audio equipment for over a decade. In that time, Anthem has built an enviable reputation for products that can recreate the passion a music lover experiences when attending a live musical performance, or the thrilling sound a movie buff experiences in the very best movie theaters. Anthem equipment allows audiophiles to almost “be there” each and every time they sit and enjoy music or home theater in the comfort of their home. Anthem provides all this with the highest level of craftsmanship, sophisticated circuit designs, superior quality parts and materials, modern intuitive ergonomics, and stylish industrial design.

Although Anthem products sound great “right out of the carton”, they will sound even better after they are thermally stabilized. We therefore recommend that you operate this product for a period of time before doing any critical listening.

The TLP 1 is a state-of-the-art stereo preamplifier with built-in FM • AM Tuner, Record output with independent input selection, and built-in crossover with high-pass and low-pass outputs.

## **1 RECEIVING AND UNPACKING THE TLP 1**

The TLP 1 is shipped in a reinforced shipping box. Check that you have received everything in the Packing List below and report any discrepancies to your dealer as soon as possible. **Keep the invoice that you received from your authorized Anthem dealer at time of purchase – without it, service cannot be given under warranty.**

### **1.1 PACKING LIST**

- TLP 1
- Remote Control
- 2 ‘AA’ Batteries
- Power Cord
- FM Antenna
- 75-ohm to 300-ohm FM Antenna Adapter
- AM Loop Antenna
- Operating Manual

### **1.2 IMPORTANT SAFETY INSTRUCTIONS**



- The Front Panel power switch is secondary only; it does not disconnect the TLP 1 from the AC power line.
- Failing to comply with any safety instruction, precaution, or warning in this Operating Manual is in direct violation of the standards of design, manufacture, and intended use of the product.
- Anthem, Sonic Frontiers International, our agents, and any related party assume no liability whatsoever for the user’s failure to comply with any or all of these requirements.

#### **1.2.1 BEFORE OPERATING YOUR TLP 1**

- Do not connect power to the TLP 1 if there are signs of damage to its exterior.
- Do not install in an unstable location or in an equipment rack that may be at risk of collapsing. Do not mount to a wall or from a ceiling, or in any way that poses risk of injury.
- Allow at least 6 inches of unobstructed air space above the ventilation slots in the top cover of the amplifier. Do not block any ventilation openings. Do not obstruct bottom vents by removing the rubber feet or operating the amplifier directly on a carpet, sofa, or similar surface.

# 1. INTRODUCTION continued ...

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## 1.2.2 SUPPLY POWER REQUIREMENTS

The TLP 1 operates from a single phase AC power source that supplies between 105V and 130V at a frequency of 60 Hz. It cannot be changed from 120V to 240V operation.

## 1.2.3 IN-USE NOTICES

- Use only the power supply cord with double insulation as supplied.
- Disconnect the amplifier's power cord before connecting or disconnecting any components.
- Do not remove the top cover.
- Do not alter or modify the amplifier in any way.
- Rail fuses are not a user serviceable item.

## 1.3 PACKING MATERIALS

Retain the shipping box and all packing material. They are custom designed to prevent shipping damage from occurring. Do not ship or transport the TLP 1 in anything other than the original box and packing material.



## 2. CONNECTIONS AND LAYOUT

With your TLP 1 in front of you, browse through the illustrations in this section to see several quick system hookup options. It's as simple as following the lines in the connection diagrams to and from each component.

### 2.1 QUICK START GUIDE – Before you start, make sure all components are unplugged.

To connect a CD player, DVD player, TV, VCR, amplifier, and powered subwoofer to the TLP 1:

- **CD Player to TLP 1** – see diagram in section 2.3.1  
Connect the L/R audio output of the CD player to Analog Audio-In/CD on the TLP 1.
- **DVD Player to TLP 1** – see diagram in section 2.3.2  
Connect the L/R audio output of the DVD player to Analog Audio-In/DVD on the TLP 1.
- **Satellite Receiver to TLP 1** – see diagram in section 2.3.2  
Connect the L/R audio output of the receiver to Analog Audio-In/SAT•AUX on the TLP 1.
- **TV to TLP 1** – see diagram in section 2.3.3  
Connect the L/R audio output of the TV to Analog Audio-In/SAT•AUX on the TLP 1. If you are using a satellite receiver and your TV does not have audio inputs and outputs, connect the satellite receiver directly to Analog Audio-In/SAT•AUX on the TLP 1.
- **VCR to TLP 1** – see diagram in section 2.3.3  
Connect the L/R audio output of the VCR to Analog Audio-In/VCR on the TLP 1.  
*To Record:* Connect Analog Audio-Out/RECORD on the TLP 1 to the L/R audio input of the VCR.
- **TLP 1 to Amplifier** – see diagrams in sections 2.3.4 and 2.3.5  
From the TLP 1, connect Left and Right outputs to the inputs of the power amplifier. Use FULL RANGE if using full-range speakers either with or without a subwoofer, and HIGH PASS if using speakers with limited low-frequency response along with a subwoofer. Follow the amplifier manufacturer's instructions for connecting the speakers.
- **TLP 1 to Powered Subwoofer** – see diagrams in sections 2.3.4 and 2.3.5  
From the TLP 1, connect Analog Audio-Out/SUBWOOFER to the subwoofer's line/low level input. Use FULL RANGE if the subwoofer has a built-in crossover, and LOW PASS if the subwoofer's crossover is bypassed or if the subwoofer doesn't have a crossover.

Reconnect the power to all components and turn them on. To turn on the TLP 1 press the **POWER** button on the front panel.

#### To Listen to a CD:

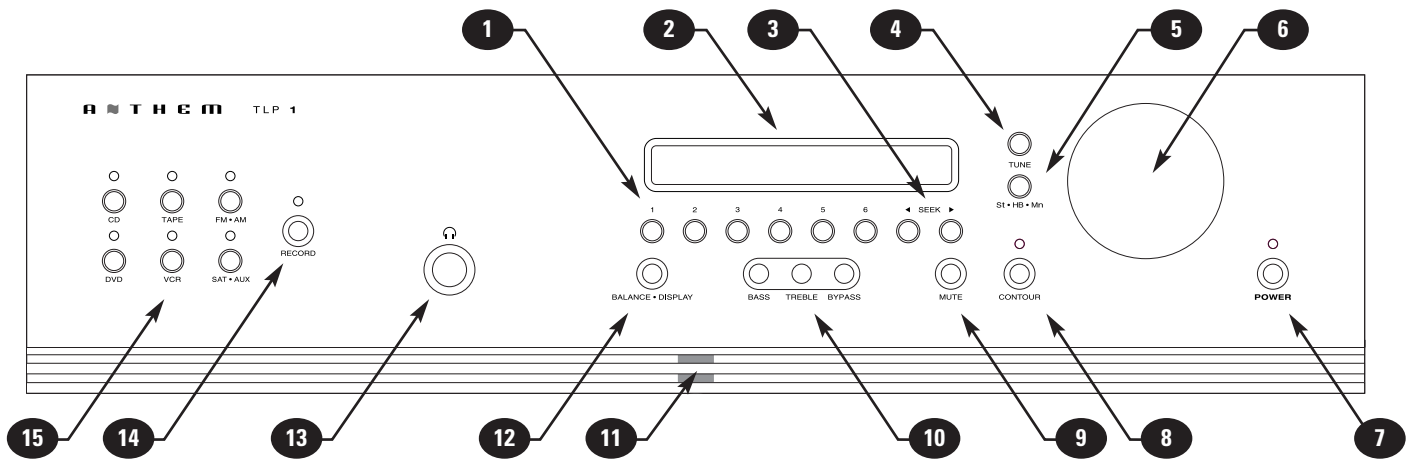
- Press **CD** Source on the front panel of the TLP 1.
- Place a CD into the CD player and press play. You should hear music coming from your speakers. Use the TLP 1 Master Control Knob on the front panel to adjust volume.

#### To Watch a DVD:

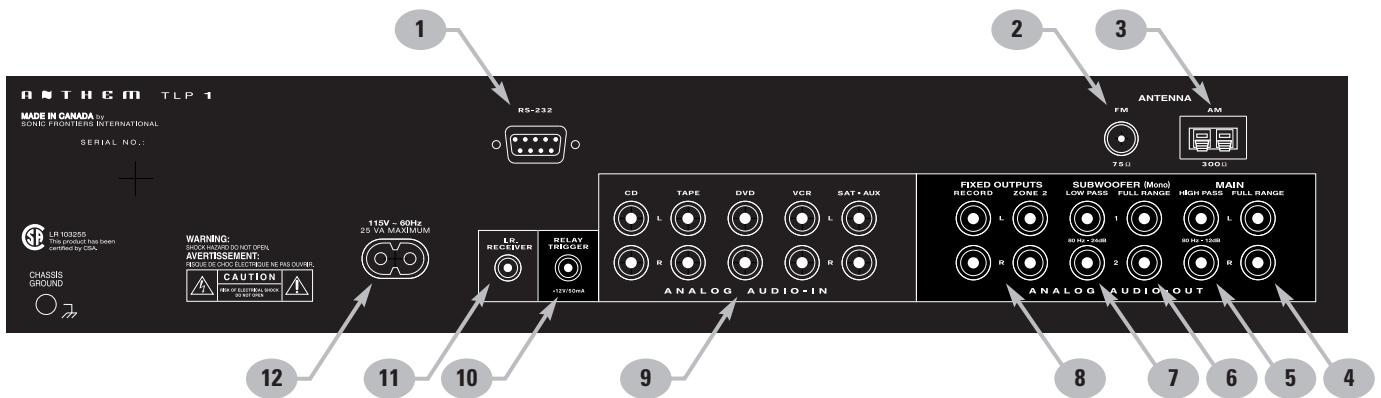
- Press **DVD** Source on the front panel of the TLP 1.
- Select the TV input that corresponds to the one that the DVD player's video output is plugged into.
- Place a DVD into the DVD player and press play. You should see the picture on your TV and hear sound from your speakers. Use the TLP 1 Master Control Knob on the front panel to adjust volume.

# 2. CONNECTIONS AND LAYOUT continued ...

## 2.2 FRONT AND REAR PANEL LAYOUTS



- |                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>1 – FM•AM Preset selection</li> <li>2 – Display</li> <li>3 – FM•AM Seek</li> <li>4 – FM•AM Tune</li> <li>5 – FM Stereo / Hi Blend / Mono</li> <li>6 – Master Control Knob:             <ul style="list-style-type: none"> <li>• <u>Volume</u></li> <li>• <u>Tune</u> for FM•AM</li> <li>• <u>Setting Adjustment</u> for Bass / Treble / Balance; Display Brightness; Input Level</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>7 – Power On / Stand-By</li> <li>8 – Contour On/Off</li> <li>9 – Mute</li> <li>10 – Bass / Treble settings</li> <li>11 – Front Panel Remote Control IR Sensor</li> <li>12 – Balance / Display Brightness setting</li> <li>13 – Headphone Jack</li> <li>14 – Record Path selection</li> <li>15 – Source selection</li> </ul> |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|



- |                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"> <li>1 – RS-232 port (for custom installation)*</li> <li>2 – FM Antenna Input</li> <li>3 – AM Antenna Input</li> <li>4 – Full Range Output (L/R jacks)</li> <li>5 – High Pass Output (L/R jacks)</li> <li>6 – 2 Subwoofer Outputs (Full Range)</li> </ul> | <ul style="list-style-type: none"> <li>7 – 2 Subwoofer Outputs (Low Pass)</li> <li>8 – 2 Line Level Outputs (Record, Zone 2 – L/R jacks)</li> <li>9 – 5 Inputs (L/R jacks)</li> <li>10 – Relay Trigger Output (3.5 mm mono jack)</li> <li>11 – Infra Red Input (3.5 mm mono jack)</li> <li>12 – Power Cord Connection</li> </ul> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

\*Custom Installers: RS-232 port is on newer production TLP 1s only. Command set is available at [www.anthemAV.com](http://www.anthemAV.com).

## 2. CONNECTIONS AND LAYOUT continued ...

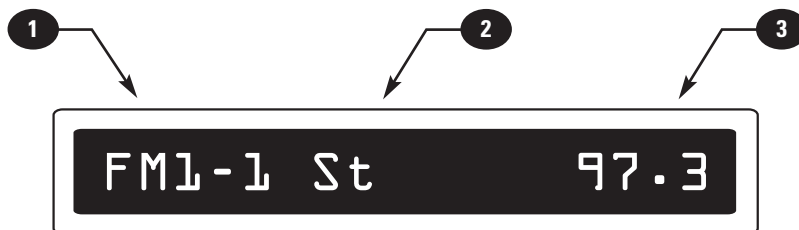
### 2.2.1 FRONT PANEL DISPLAY

#### Main Display Example:



- 1 – Source selection.
- 2 – Volume setting. When muted, “Muted” flashes instead of the current volume setting.

#### FM•AM Display Example:



- 1 – Source+Bank. The tuner has three FM banks (FM1, FM2, and FM3) and one AM bank. The number after the selected bank is the preset station.
- 2 – FM mode. Displays “St” when in stereo, “HB” when Hi-Blend is selected, or “Mn” when in mono or mono is selected.
- 3 – Currently tuned FM•AM frequency to the nearest 0.1 MHz for FM and to nearest 10 kHz for AM.

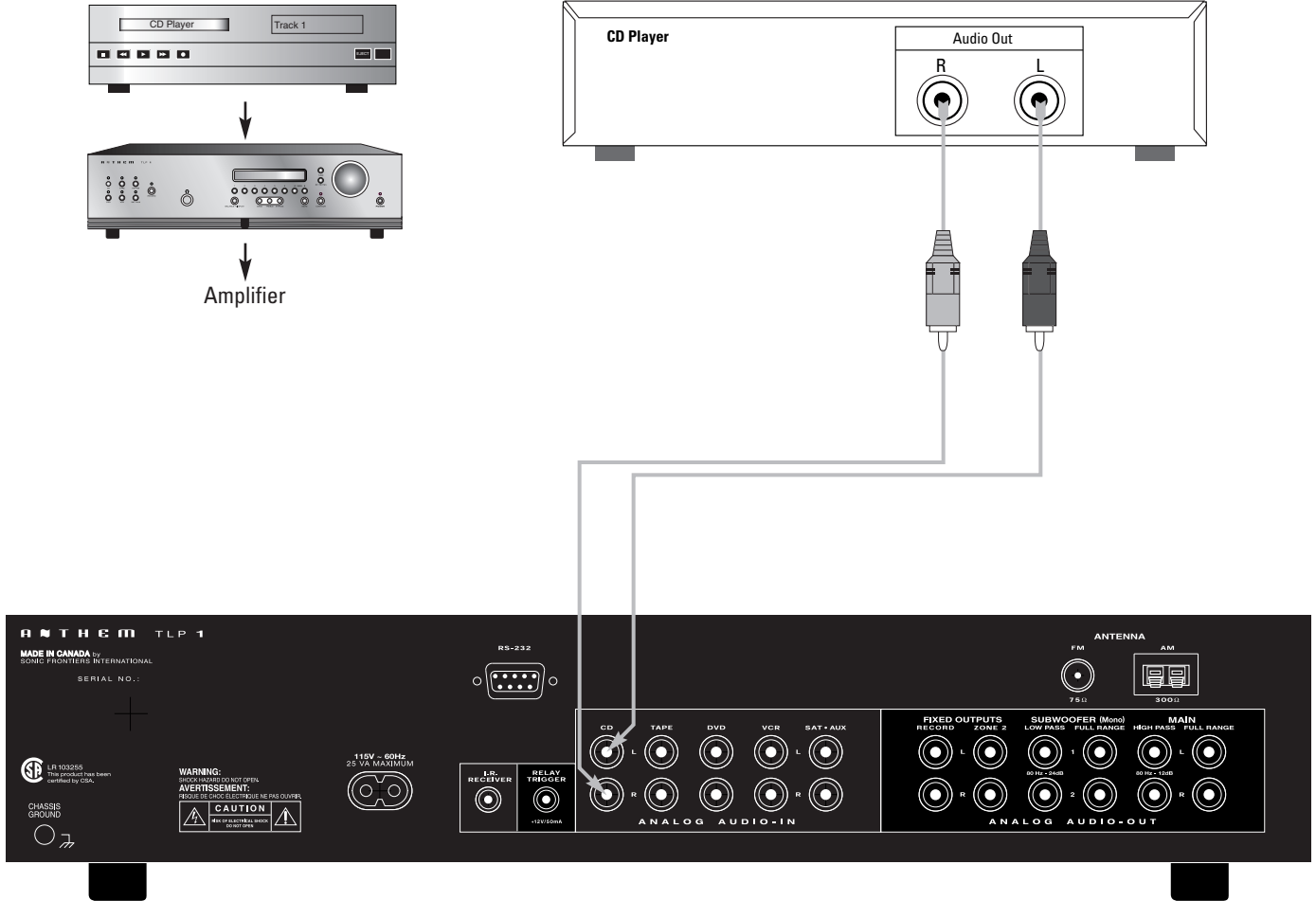
#### Record Display Example:



- 1 – Source selection.
- 2 – Record path indication. Note that the selection time lasts approximately 3 seconds, after which the normal display returns.

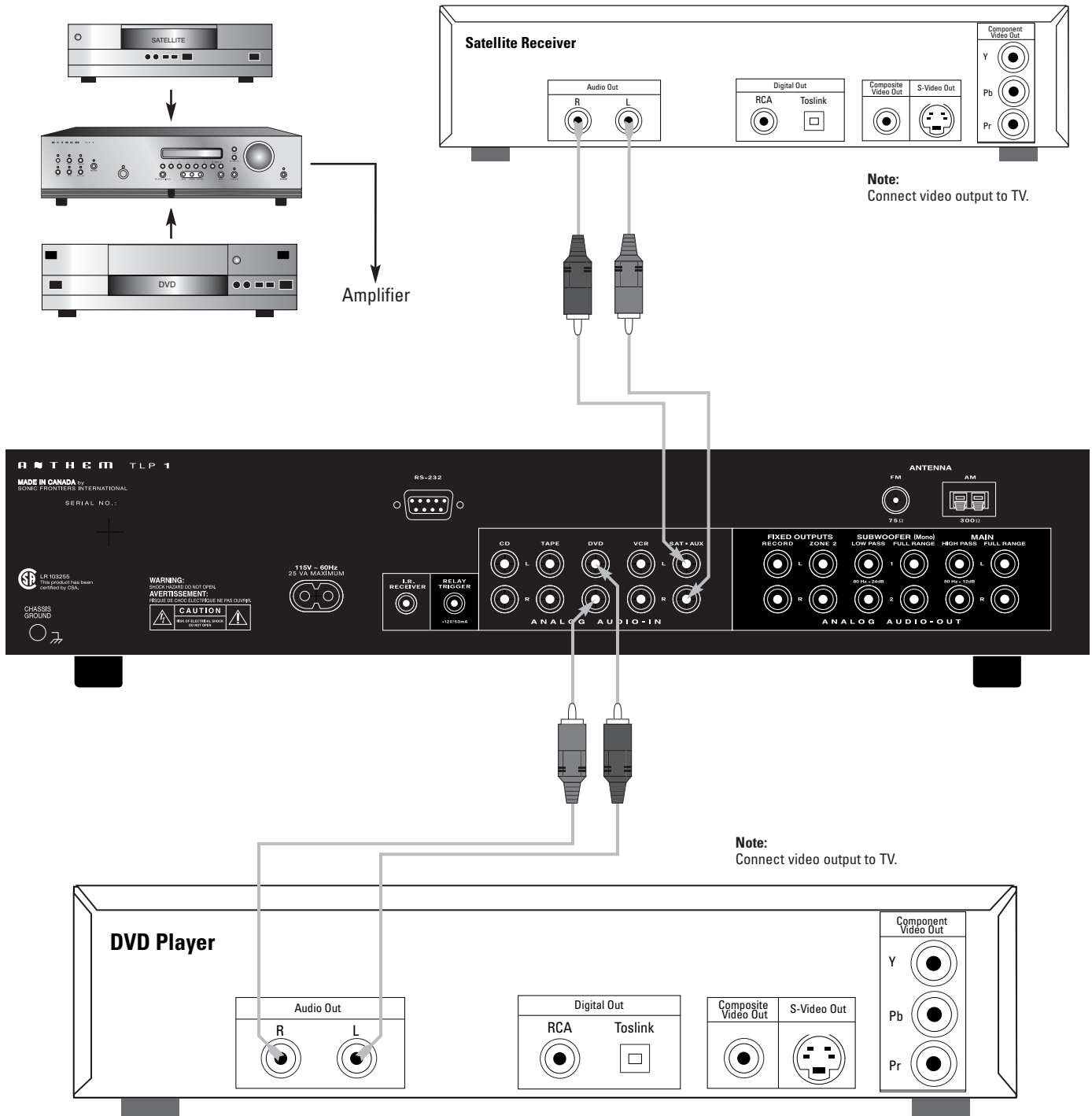
# 2. CONNECTIONS AND LAYOUT continued ...

## 2.3.1 CD Player to TLP 1



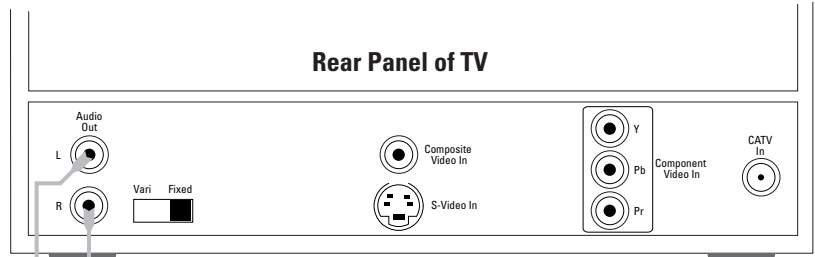
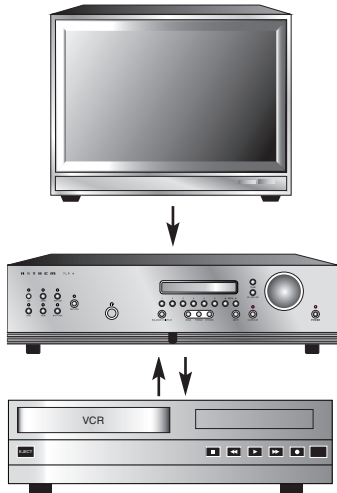
# 2. CONNECTIONS AND LAYOUT continued ...

## 2.3.2 DVD Player and Satellite Receiver to TLP 1

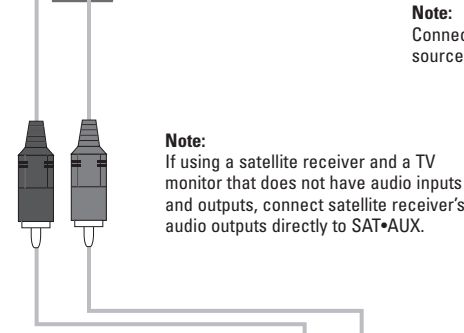


# 2. CONNECTIONS AND LAYOUT continued ...

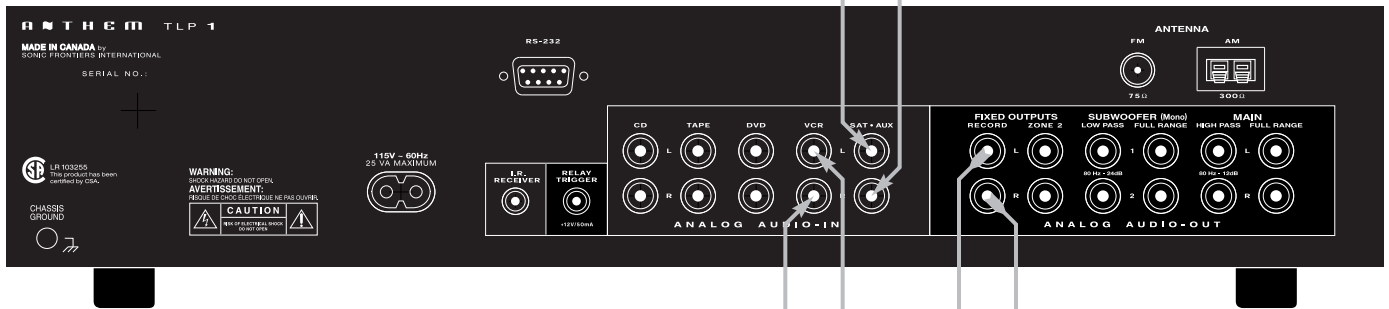
## 2.3.3 VCR and TV to TLP 1



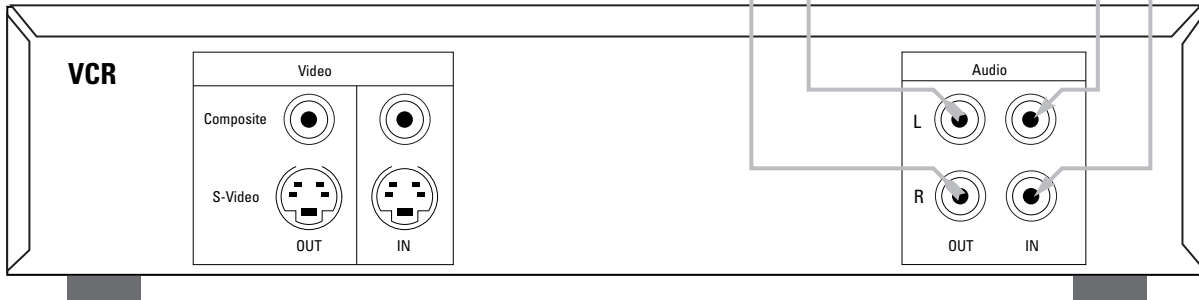
**Note:**  
Connect video output from source components to TV.



**Note:**  
If using a satellite receiver and a TV monitor that does not have audio inputs and outputs, connect satellite receiver's audio outputs directly to SAT•AUX.

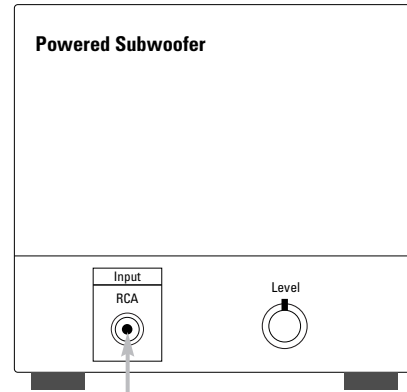
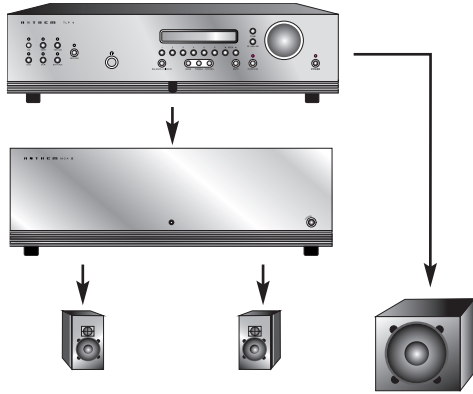


**Note:**  
Connect video output to TV.

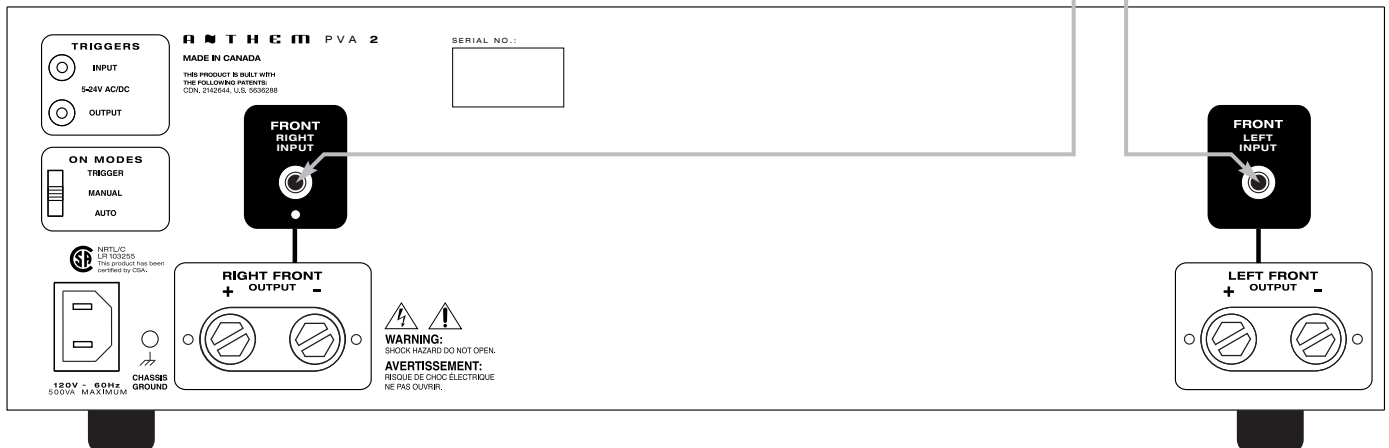


# 2. CONNECTIONS AND LAYOUT continued ...

## 2.3.4 TLP 1 to Amplifier and Powered Subwoofer – Small Speakers

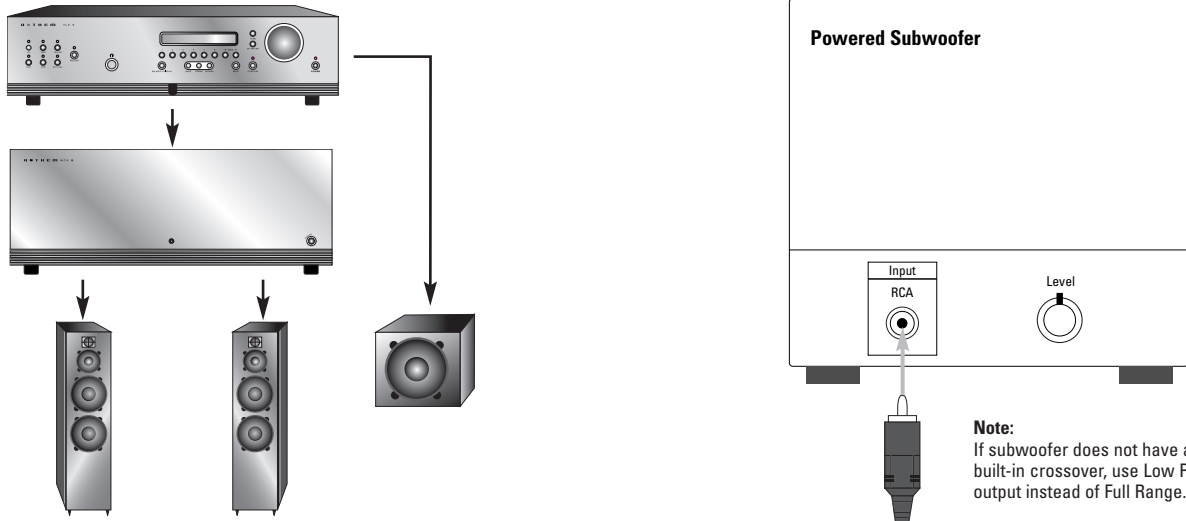


**Note:**  
If subwoofer does not have a built-in crossover, use Low Pass output instead of Full Range.

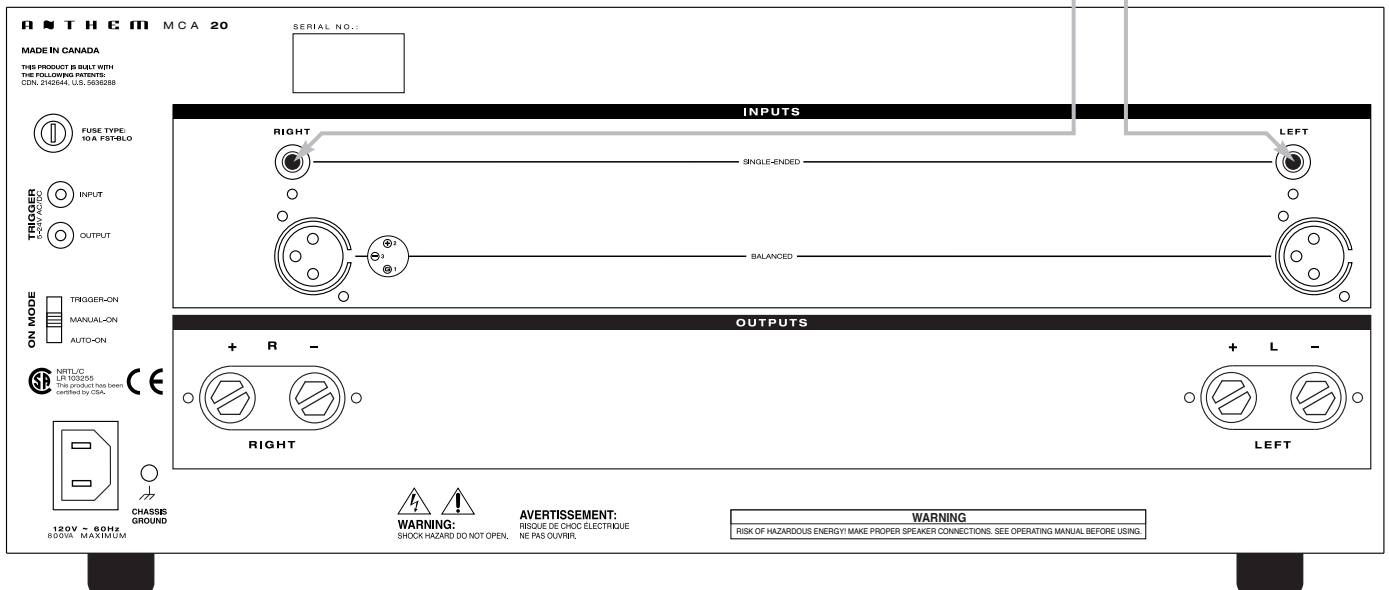


# 2. CONNECTIONS AND LAYOUT continued ...

## 2.3.5 TLP 1 to Amplifier and Powered Subwoofer – Full Range Speakers



**Note:**  
If subwoofer does not have a built-in crossover, use Low Pass output instead of Full Range.

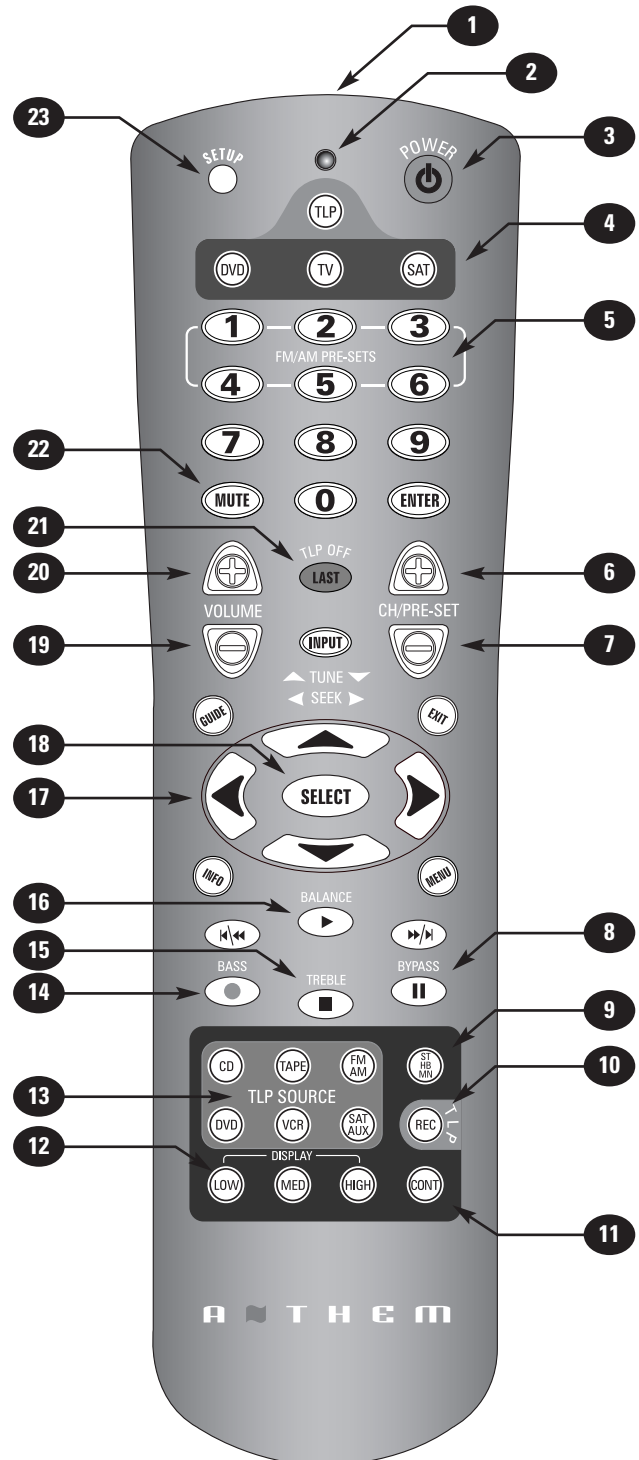




## 2. CONNECTIONS AND LAYOUT continued ...

### 2.4 REMOTE CONTROL LAYOUT

- 1 – IR Transmitter (front face)
- 2 – Transmission Indicator LED (red)
- 3 – TLP 1 Power ON  
Power ON/OFF for other components (see #4)  
**Note:** This does not turn the TLP 1 off (see #21)
- 4 – Control Mode selection
- 5 – FM•AM Preset selection (6)
- 6 – FM•AM Preset Station Up
- 7 – FM•AM Preset Station Down
- 8 – Selects Tone Bypass
- 9 – Selects Stereo / Hi Blend / Mono for FM•AM
- 10 – RECORD Path selection
- 11 – Contour On/Off
- 12 – Display Brightness
- 13 – Source selection
- 14 – Bass setting
- 15 – Treble setting
- 16 – Balance setting
- 17 –
  - Tune for FM•AM
  - Setting Adjustment Bass / Treble
- 18 –
  - Seek for FM•AM
  - Setting Adjustment for Balance
- 19 – Volume Down
- 20 – Volume Up
- 21 – TLP 1 Power OFF
- 22 – Mute
- 23 – Setup (for customization of remote)



## 2. CONNECTIONS AND LAYOUT continued ...

### 2.5 CONNECTING POWER TO THE TLP 1

Connect the power cord to the back of the TLP 1 and then to an AC outlet. If excessive hum or buzz is heard through the speakers during operation, remove the cord from the back of the TLP 1 and re-insert it after turning the connector upside down.

### 2.6 AUDIO INPUTS

Audio connections are made through interconnect cables – typically white or black for the Left channel and red for the Right channel. The audio output connectors on tape recorders, VCRs, and CD players are normally color coded in this same manner – connect them to the appropriate inputs on the TLP 1:



### 2.7 AUDIO OUTPUTS

Any of the outputs shown below can be used simultaneously:



#### Fixed Outputs:

These provide a fixed line-level output for connection to a tape recorder's or VCR's audio record inputs, and/or to an integrated amplifier or receiver that is used for another room (Zone 2) so sources connected to the TLP 1 can be directed to that remote location. The volume control does not affect this output level.

#### Subwoofer:

Intended to be used with a powered subwoofer or subwoofer amplifier, each of the four jacks provides a mono signal of the left and right channels combined. Up to two subwoofers can be connected in either of the following configurations: Low Pass, which contains only low bass, or Full Range, which is unfiltered.

- Use **Full Range** if the subwoofer has a built-in crossover.
- Use **Low Pass** if the subwoofer's crossover is bypassed or if there is no crossover in the subwoofer or subwoofer amplifier.

#### Main:

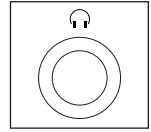
The High Pass output reduces low bass which makes it ideal when using smaller speakers that are unable to reproduce deeper bass or bass at full output levels. The use of a powered subwoofer is strongly recommended with this setup. The unfiltered Full Range output is the 'normal' full bandwidth audio output.

- Use **Full Range** if using full bandwidth speakers, either with or without a subwoofer.
- Use **High Pass** if using smaller speakers and a subwoofer.

## 2. CONNECTIONS AND LAYOUT continued ...

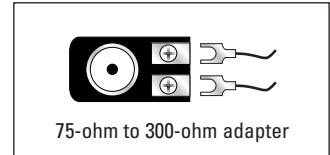
### Headphone:

When a headphone plug is inserted into the headphone jack on the front panel, all audio outputs on the rear panel are muted.



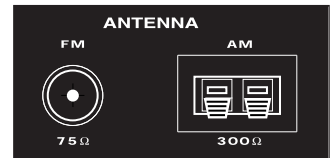
### 2.8 FM•AM ANTENNAS

To connect the FM antenna, first connect the two antenna wires to the screw terminals of the 75-ohm to 300-ohm adapter. Then connect the adapter to the FM ANTENNA connector on the TLP 1. If your local cable company provides FM service, connect the cable directly to the TLP 1 instead of using the antenna.



To connect the AM loop antenna, press the spring-loaded tabs of the AM ANTENNA connector, insert the bare ends of the wire from the loop antenna and release the tabs.

Once the antennas are connected, move each of them around until best reception is found. For the FM antenna, this will usually be in a "T" formation.



### 2.9 RELAY TRIGGER

If your other components, such as the power amplifier, have a trigger input, you can automatically turn them on and off simultaneously with the TLP 1. Connect the RELAY TRIGGER trigger output from the TLP 1 to the trigger input of your power amplifier, TV monitor, etc., using a cable with 3.5mm mono mini plugs.



### 2.10 INFRA RED RECEIVER

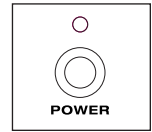
An external IR repeater allows the Remote Control to be used from other locations in your home, for example Zone 2. Once a repeater is wired to a selected room, connect it to the I.R. RECEIVER input.



# 3. FRONT PANEL OPERATION

## 3.1 POWER ON/OFF

When turned on, the TLP 1 will have all of the same settings it had when it was last turned off, except for Volume, which comes on at -30 dB.



## 3.2 MASTER CONTROL KNOB

Besides being a Volume Control, the MASTER CONTROL KNOB also operates other functions, including adjustment of Bass / Treble / Balance, FM•AM tuning, Input Level, and Display Brightness selection.

### Mute:

When MUTE is pressed, the audio output is silenced. Press MUTE again, or rotate the Master Control Knob to adjust the volume, and sound will return.



## 3.3 SOURCE SELECTION

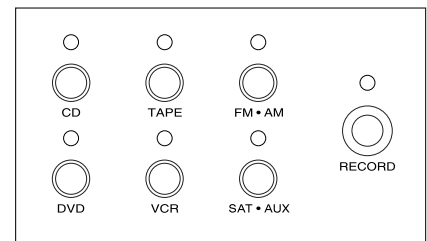
The TLP 1 accommodates up to five external sources plus the built-in FM•AM stereo tuner. The main path selection is completely independent from the record path selection.

### Main Path:

To make a source selection, simply press the corresponding button.

### Record Path:

To make a selection for the Record outputs, press Record, then press a source button within 3 seconds – the red indicator will remain lit for the duration of the selection period.



### Adjust Input Levels:

You can match main path input levels to each other to prevent large changes in volume as you change from one source to another. Press and hold the source button of the input you want to adjust, and when 'Lvl +0.0' appears on the display, adjust using the Master Control Knob before the main display returns.

Before making input level adjustments, have all connected source components playing similar music material. Also, make sure that all four tuner banks are tuned to a station (see below). Then, as you switch through each source, you will hear that component play. This allows for easy comparative level adjustments.

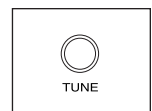
**Note:** The selected tuner bank immediately changes when pressing FM•AM. To adjust AM input level, select FM-3 first, then press and hold **FM•AM** and the band will automatically change to AM.

## 3.3.1 FM•AM TUNER

The TLP 1 has a built-in FM•AM tuner. The station that is selected for the main outputs is automatically shared when FM•AM is selected for Record.

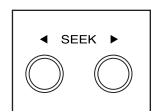
### Manual Tuning:

Select the desired bank by pressing **FM•AM**, then press **TUNE** and rotate the Master Control Knob to find a station.



### Automatic Tuning:

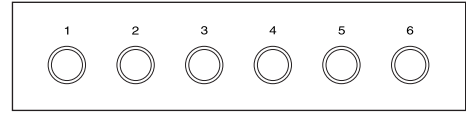
To automatically find the next station, press ◀ **SEEK** or **SEEK** ▶. To scan and listen to all available radio stations for a few seconds at a time, press and hold ◀ **SEEK** or **SEEK** ▶ for about a second. The 'Seek ◀' or 'Seek ▶' indicator on the display will change to '◀◀' or '▶▶' to indicate that the tuner is scanning. To stop scanning, press the same **SEEK** button that was used to initiate scanning.



## 3. FRONT PANEL OPERATION continued ...

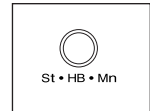
### Presets:

18 FM and 6 AM stations can be stored in the TLP 1. The presets are divided into four banks of six. By repeatedly pressing **FM • AM**, the display will show that you are cycling through 'FM1', 'FM2', 'FM3', 'AM'. Once you have selected the desired bank, you can store the currently tuned radio station by pressing and holding one of the six preset keys (**1** through **6**) for about a second. You can even do this while scanning for stations. The lower line of the display briefly flashes once the station is stored. To recall a preset, select the bank that it is in, then press the respective preset key.



### ST / HB / Mn:

If FM reception is weak, switching a station out of stereo can reduce or eliminate unwanted hiss and noise. Press **ST / HB / Mn** repeatedly to cycle through Stereo, Hi-Blend, or Mono. Hi-Blend offers an alternative to Mono, offering decreased noise without the complete loss of stereo – it decreases noise by reducing some stereo separation at higher frequencies.

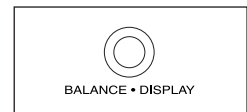
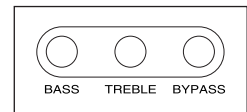


When storing a station to a preset, your selected preference of Stereo, Hi-Blend, or Mono will also be stored.

### 3.4 BASS / TREBLE / BALANCE

To change Bass, Treble, or Balance, press **BASS**, **TREBLE**, or **BALANCE • DISPLAY**, then adjust using the Master Control Knob.

Bass and Treble settings are stored in memory by source – for example, you may want to set treble for AM to +6, FM to -1 and Tape to +1. The TLP 1 memorizes bass and treble settings for each source independently. This allows you to switch between sources without having to constantly make Bass or Treble adjustments.

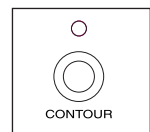


### Tone Bypass:

Pressing **BYPASS** disables Bass/Treble adjustments, as well as defeating the Contour feature if it has been engaged. To enable Bass/Treble again, press either **BASS** or **TREBLE**.

### 3.5 CONTOUR

When listening at low levels, our hearing sensitivity to bass and treble frequencies decreases. When engaged, the Contour function of the TLP 1 compensates by adding bass and treble according to volume setting and a psychoacoustically modeled compensation curve. It begins to take effect when the volume setting is around -20 dB. Bass and treble added relative to the overall signal gradually increases as the volume is lowered.



### 3.6 DISPLAY BRIGHTNESS

The intensity of the Front Panel display and indicators can be changed. Press **BALANCE • DISPLAY** twice and then use the Master Control Knob to select High, Medium, or Low.

# 4. REMOTE CONTROL OPERATION

The TLP 1 Universal Remote Control has all of the same functions as the front panel buttons and is operated in a similar way, but there are some differences. Please take the time to read this section to fully understand all the functions of the TLP 1 Remote Control.

The keys labeled in this illustration show those that have a **different** method of operation from their front panel counterparts. Those shown in **bold italics** indicate keys that are unique to the Remote Control and not found on the Front Panel. For a detailed layout diagram see section 2.4.


Before we get started, we have to give the remote a little attitude adjustment – set the ‘personality’ to TLP by pressing **TLP** Control Mode key near the top of the remote.

**Note:** The Control Mode keys do not transmit any commands. They only determine where subsequent commands are sent. For example, if TV is selected followed by CH+, the channel changes on your TV while the TLP 1 and all other components remain unaffected (see section 4.3.1 and Appendix A to set up reset memory codes).

Did we forget to mention the batteries? They go in by taking off the rear cover – remember polarity. Down the road, if the LED blinks twice each time a command is sent and the TLP 1 doesn’t respond, it’s an indication that the batteries need replacement.

## 4.1 POWERING THE TLP 1 ON AND OFF

Separate power commands are a requirement in custom multi-zone installations, and for this reason **two different keys** are used to turn the TLP 1 ON and OFF.

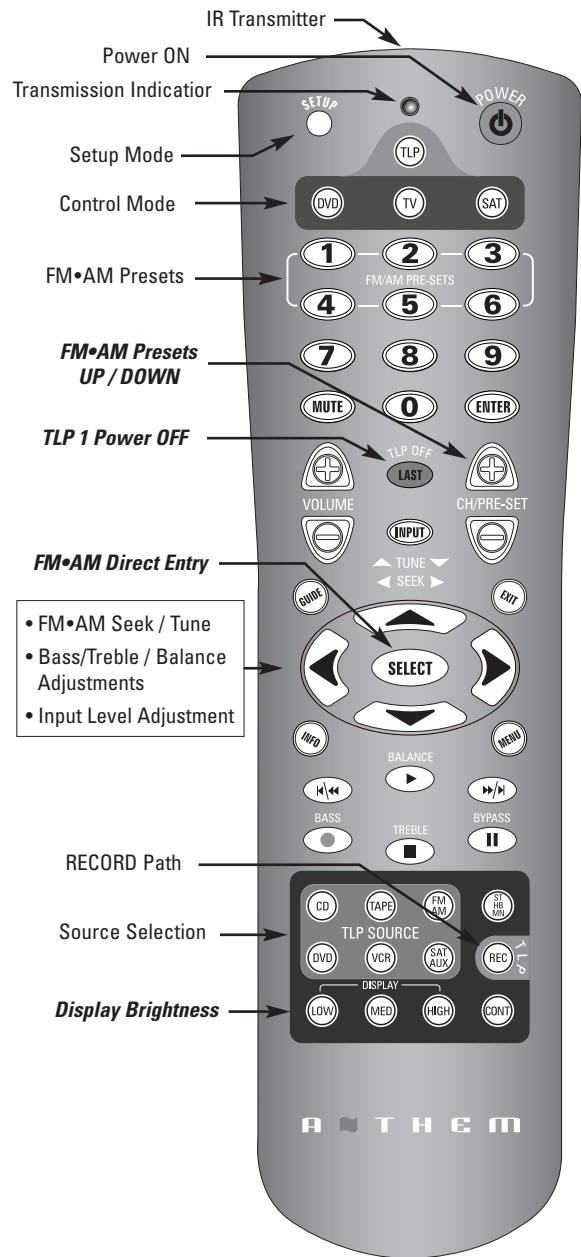
The  power key in the top right corner turns the TLP 1 Power ON. The red **TLP OFF** key in towards the middle turns the TLP 1 Power OFF.

The TLP 1 is turned ON and OFF as follows:

- **ON:** Press .
- **OFF:** Press **TLP OFF**.

## 4.2 DIRECT FM•AM STATION ENTRY (Remote Control Only)

When using the FM•AM Tuner, the station frequency can be entered as a four-digit number. For example, to tune into 98.3 FM, press and hold **SELECT** until the display shows “<blank>0.0” in the lower left corner, then press **0, 9, 8, 3**.



## 4. REMOTE CONTROL OPERATION continued ...

### 4.3 CONTROLLING OTHER COMPONENTS

The TLP 1 Remote Control can be set up to control your TV, DVD player or VCR, and satellite receiver or cable converter. It contains a set of codes for models from many different manufacturers, which can be entered to virtually duplicate another remote control.

#### 4.3.1 ENTERING PRESET MEMORY CODES


In Appendix A, at the back of this manual, you will find codes for programming the TLP 1 remote. To enter a preset memory code:

1. Press the Component key (e.g. **DVD**).
2. Press and hold **SETUP** until the LED flashes twice.
3. Enter the **four-digit code** from Appendix A. The LED should blink twice.

VCR and Laser Disc player codes can be programmed into the DVD key, and Cable Converter codes can be programmed into the SAT key. A VCR code, for example, can not be programmed into the TV key.

#### 4.3.2 SEARCHING FOR A CODE

If a code for your component is not listed in Appendix A, it may be buried under a different name, for example if one DVD player manufacturer uses a mechanism from another manufacturer:

1. Turn the component on (e.g. DVD player).
2. Press the matching Component key (e.g. **DVD**).
3. Press and hold **SETUP** until the LED flashes twice.
4. Press **9, 9, 1**.
5. Aim the remote towards the DVD player and alternate between pressing  and **DVD**.
6. Stop once the DVD player turns off. Immediately press and release **SETUP** to lock the code.

**Note:** There may be more than one manufacturer code that causes power to turn on/off on your component – you may have to try this a few times before finding a code that controls all functions.

7. If, for future reference, you want to know what the code is, press and hold **SETUP** until the LED flashes twice and then press **9, 9, 0, 1**. Wait 3 seconds and count the number of flashes. The number of flashes represent the first digit (i.e. 3 flashes = 3, no flash = 0). Next, press **2** for the second digit, **3** for the third digit, and **4** for the fourth digit, and count the number of flashes each time. Record this code number in Appendix A for future reference.

#### 4.3.3 VOLUME LOCK

After entering a code for your TV or satellite receiver, you may find it inconvenient to switch the Component keys back and forth when you alternate between say, changing channels on your TV and adjusting volume on the TLP 1. Not to worry, the Volume Lock feature takes care of this. When engaged, the volume keys adjust TLP volume, regardless of which Component is selected. You can then leave your Component selection in TV – you no longer have to press TLP first to adjust the volume of the TLP 1.

## 4. REMOTE CONTROL OPERATION continued ...

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In the following example, TLP volume is locked onto every Component selection except TV:

### To Engage Volume Lock for TLP:

1. Press and hold **SETUP** until the LED flashes twice.
2. Press **9, 9, 3**.
3. Press **TLP**.

At this point, the Volume and Mute keys now control the TLP 1, no matter which of the four Component selections the Remote Control is in. However, since this may not be desirable, any individual Component selection can be unlocked.

### To Disengage Volume Lock for TV, and re-engage the TV Volume Control:

4. Press **TV**.
5. Press and hold **SETUP** until the LED flashes twice.
6. Press **9, 9, 3**.
7. Press **VOL-**.

The Volume and Mute keys now control the TLP 1 for every Component selection except for TV. You may continue to unlock other Components one at a time. To unlock all Components at once and restore the default setting, press **VOL+** instead of **VOL-** in step 7.

#### 4.4 TEACHING THE TLP 1 REMOTE CONTROL TO UNIVERSAL LEARNING REMOTES

Some keys on the TLP 1 Remote, such as **VOL+**, **VOL-**, and **SELECT** have **press and hold** commands as well as regular **press and release** commands. The 'press and hold' command of a key is exactly the same as the 'press and release' command of that key, repeated as long as the key is held. It may be necessary to program your aftermarket remote to **loop** or **repeat** a 'press and release' command to turn it into a 'press and hold' command. The methods of doing this vary with the model – contact the remote control manufacturer for more information.



# APPENDIX A – PRESET MEMORY CODES

VCR and Laser Disc player codes can be programmed into the DVD key, and Cable Converter codes can be programmed into the SAT key. To enter a code:

1. Press the Component key (e.g. **TV**).
2. Press and hold **SETUP** until the LED flashes twice.
3. Enter the **four-digit code**. The LED should blink twice.

## TVs:

AOC	0030, 0019
Admiral	0093
Aiko	0092
Akai	0030
Alaron	0179
Allegro	0720, 0774
Ambassador	0177
Ampro	0751
Anam	0180
Audiovox	0451, 0180, 0092, 0623
Aumark	0060
Baysonic	0180
Belcor	0019
Bell & Howell	0154, 0016
Bradford	0180
Brockwood	0019
Broksonic	0236, 0463
CXC	0180
Candle	0030, 0056
Carnivale	0030
Carver	0054
Celebrity	0000
Cineral	0451, 0092
Citizen	0060, 0030, 0056, 0039, 0092
Concerto	0056
Contec	0180
Craig	0180
Crosley	0054
Crown	0180, 0039
Curtis Mathes	0047, 0054, 0154, 0051, 0451, 0093, 0060, 0030, 0145, 0056, 0016, 0039, 0166, 0466, 1147, 1347
Daewoo	0451, 0019, 0039, 0092, 0623, 0624
Daytron	0019, 0039
Denon	0145
Dumont	0017, 0019
Dwin	0720, 0774
Electroband	0000
Emerson	0154, 0236, 0463, 0180, 0282, 0178, 0019, 0179, 0039, 0177, 0623, 0624
Envision	0030
Fisher	0154
Fujitsu	0179
Funai	0180, 0179, 0171
Futuretech	0180
GE	0047, 0051, 0451, 0093, 0282, 0178, 0021, 0135, 1147, 1347
Gibraltar	0017, 0030, 0019
Go Video	0060
GoldStar	0030, 0178, 0019, 0056, 0039
Gradiente	0053, 0056
Grunpy	0180, 0179
Hallmark	0178
Harley Davidson	0179
Harman/Kardon	0054
Harvard	0180
Hitachi	0145, 0056, 0151
Infinity	0054
Inteq	0017
JBL	0054
JCB	0000
JVC	0053
KEC	0180
KTV	0180, 0030, 0039
Kenwood	0030, 0019
LG	0056
LXI	0047, 0054, 0017, 0154, 0156, 0178, 1347
Logik	0016
Luxman	0056
MGA	0150, 0030, 0178, 0019

MTC	0060, 0030, 0019, 0056
Magnavox	0054, 0030, 0179
Majestic	0016
Marantz	0054, 0030
Matsushita	0051, 0250
Megatron	0178, 0145
Memorex	0154, 0250, 0150, 0060, 0178, 0056, 0016
Midland	0047, 0017, 0051, 0039, 0135
Minutz	0021
Mitsubishi	0093, 0150, 0178, 0019
Motorola	0093
Multitech	0180
NAD	0156, 0178, 0166
NEC	0030, 0019, 0056
NTC	0092
Nikko	0047, 0017, 0154, 0156, 0030, 0178, 0092, 1347
Onwa	0180
Optimus	0154, 0250, 0166
Optonica	0093, 0165
Orion	0236, 0463, 0179
Panasonic	0047, 0054, 0154, 0156, 0051, 0250, 0093, 0165, 0150, 0060, 0053, 0178, 0145, 1347
Penney	0047, 0156, 0051, 0060, 0030, 0178, 0021, 0019, 0056, 0039, 0135, 1347
Philco	0054, 0463, 0030, 0145, 0019
Philips	0054, 0017, 0000, 0021, 0019, 0039
Pilot	0030, 0019, 0039
Pioneer	0166
Portland	0019, 0039, 0092
Prism	0051
Proscan	0047, 0030, 1347
Proton	0178, 0466
Pulsar	0017, 0019
Quasar	0051, 0250, 0165
RCA	0047, 0051, 0093, 0019, 0090, 0135, 1047, 1147, 1247, 1347
Radio Shack	0047, 0154, 0165, 0180, 0030, 0178, 0019, 0056, 0039
Realistic	0154, 0165, 0180, 0030, 0178, 0019, 0056, 0039
Runco	0017, 0030, 0603
SSS	0180, 0019
Sampo	0030, 0039
Samsung	0060, 0030, 0178, 0019, 0056, 0039
Samsux	0039
Sansei	0451
Sansui	0463
Sanyo	0154
Scimitsu	0019
Scotch	0178
Scott	0236, 0180, 0178, 0019, 0179
Sears	0047, 0054, 0154, 0156, 0178, 0179, 0056, 0171
Semivox	0180
Semp	0156
Sharp	0093, 0165, 0039
Shogun	0019
Signature	0016
Sony	0000
Soundesign	0180, 0178, 0179
Squareview	0171
Starlite	0180
Supreme	0000
Sylvania	0054, 0030
Symphonic	0171
TMK	0178, 0056, 0177
Tandy	0093

Technics	0047, 0017, 0051, 0250, 1347
Technol Ace	0179
Techwood	0051, 0056
Teknika	0054, 0180, 0150, 0060, 0019, 0179, 0056, 0016, 0039, 0092
Telefunken	0056
Toshiba	0154, 0156, 0060
Totevision	0039
Universal	0021
Vector Research	0030
Victor	0053
Vidikron	0054
Vidtech	0178, 0019
Wards	0054, 0156, 0165, 0030, 0178, 0021, 0019, 0179, 0056, 0016, 0135
White Westinghouse	0623, 0624
Yamaha	0030, 0019
Zenith	0017, 0016, 0092

## VCRs:

Admiral	0048
Adventura	0000
Aiko	0278
Aiwa	0037, 0000
Akai	0041
American High	0035
Asha	0240
Audiovox	0037
Beaumarck	0240
Bell & Howell	0104
Broksonic	0184, 0121, 0209, 0002
CCE	0072, 0278
Calix	0037
Canon	0035
Carver	0081
Cineral	0278
Citizen	0037, 0278
Colt	0072
Craig	0037, 0047, 0240, 0072, 0271
Curtis Mathes	0060, 0035, 0041, 0162
Cybernex	0240
Daewoo	0045, 0278
Denon	0042
Dynatech	0000
Electrohome	0037
Electroponic	0037
Emerex	0032
Emerson	0037, 0184, 0000, 0121, 0043, 0209, 0002, 0278
Fisher	0047, 0104
Fuji	0035, 0033
Funai	0000
GE	0060, 0035, 0048, 0240
Garrard	0000
Go Video	0526
GoldStar	0037, 0038
Gradiente	0000
HI-Q	0047
Harley Davidson	0000
Harman/Kardon	0081, 0038
Harwood	0072
Headquarter	0046
Hitachi	0000, 0042, 0041
JVC	0067, 0041
Jensen	0041
KEC	0037, 0278
KLH	0072
Kenwood	0067, 0041, 0038, 0046
Kodak	0035, 0037
LXI	0037
Lloyd's	0000
Logik	0072
MEI	0035
MGA	0240, 0043
MGN Technology	0240

# APPENDIX A – PRESET MEMORY CODES continued ...

MTC	0240, 0000
Magnasonic	0278
Magnavox	0035, 0039, 0081, 0000, 0149
Magnin	0240
Marantz	0035, 0081, 0038
Marta	0037
Matsushita	0035, 0162, 0454
Memorex	0035, 0037, 0048, 0039, 0047, 0240, 0000, 0104, 0046, 1162, 1262
Minolta	0042
Mitsubishi	0048, 0067, 0043
Motorola	0035, 0048
Multitech	0000, 0072
NAP	0035, 0037, 0039, 0042, 0033
NEC	0104, 0067, 0041, 0038
Nikko	0037
Noblex	0240
Olympus	0035
Optimus	0037, 0048, 0104, 0162, 0454, 1062, 1162, 1262
Orion	0184, 0002
Panasonic	0035, 0162, 0225, 0454, 1162
Penney	0035, 0037, 0240, 0042, 0038
Pentax	0042
Philco	0035, 0209
Philips	0035, 0081
Pilot	0037
Pioneer	0067
Profitronic	0240
Proscan	0060
Protec	0072
Pulsar	0039
Quarter	0046
Quartz	0046
Quasar	0035, 0162, 0454, 1162
RCA	0060, 0035, 0048, 0240, 0042, 0149
Radio Shack	0000
Radix	0037
Randex	0037
Realistic	0035, 0037, 0048, 0047, 0000, 0104, 0046
Runco	0039
STS	0042
Samsung	0240, 0045
Sanky	0048, 0039
Sansui	0000, 0067, 0041, 0271
Sanyo	0047, 0240, 0104, 0046
Scott	0184, 0045, 0121, 0043
Sears	0035, 0037, 0047, 0000, 0042, 0104, 0046
Semp	0045
Sharp	0048
Shintom	0072
Shogun	0240
Signature	0035
Singer	0072
Sony	0035, 0032, 0000, 0033
Sylvania	0035, 0081, 0000, 0043
Symphonic	0000
TMK	0240
Tatung	0041
Teac	0000, 0041
Technics	0060, 0035, 0039, 0162
Teknika	0035, 0037, 0000
Thomas	0000
Toshiba	0045, 0043
Totevision	0037, 0240
Unitech	0240
Vector	0045
Vector Research	0038
Video Concepts	0045
Videosonic	0240
Wards	0060, 0035, 0048, 0047, 0081, 0240, 0045, 0000, 0042, 0072, 0149
White Westinghouse	0278
XR-1000	0035, 0000, 0072
Yamaha	0041, 0038
Zenith	0039, 0000, 0033

## TV/VCR Combos:

American High	0035 (for TV use 0051)
Brocksonic	0002, 0294
Colt	0072
Curtis Mathis	0035 (for TV use 0051)
Daewoo	0278
Emerson	0002, 0294, 0479
Funai	0000
GE	0035 (for TV use 0051) 0060 (for TV use 0047) 0048 (for TV use 0093) 0240
Hitachi	0035 (for TV use 0051) 0000
HQ	0000
Lloyds	0000
MGA	0240
Magnavox	0081 (for TV use 0054) 0035 (for TV use 0051) 0000
Magnin	0240
Memorex	0037, 0162 (for TV use 0250) 0048 (for TV use 0093)
Mitsubishi	0002, 0294, 0479
Orion	0035 (for TV use 0051) 0162 (for TV use 0250)
Panasonic	0035 (for TV use 0051) 0035 (for TV use 0051) 0240,
Penney	0035 (for TV use 0051) 0240, 0162 (for TV use 0250)
Quasar	0035 (for TV use 0051) 0162 (for TV use 0250)
RCA	0060 (for TV use 0047) 0035 (for TV use 0051) 0048 (for TV use 0093)
Sansui	0000, 0479
Sanyo	0240
Sears	0000, 0037
Sharp	0048 (for TV use 0093)
Sony	0032 (for TV use 0000)
Symphonic	0000
Zenith	0000

## Cable Converters:

ABC	0003, 0008, 0014, 0017, 0007, 0011, 0013
Allegro	0153, 0315
Archer	0153, 0797
Bell & Howell	0014
Century	0153
Citizen	0153, 0315
Comtronics	0040
Contec	0019
Eastern	0002
Emerson	0797
Everquest	0015, 0040
Focus	0400
Garrard	0153
Gemini	0015
General Instrument	0476, 0276, 0011, 0810
GoldStar	0144, 0040
Goodmind	0797
Hamlin	0020, 0259, 0009, 0034
Hitachi	0011
Hytex	0007
Jasco	0015, 0153, 0315
Jerrold	0003, 0012, 0476, 0276, 0014, 0015, 0011, 0810
Magnavox	0014
Memorex	0000
Movie Time	0063
NAP	0007
NSC	0063
Oak	0019, 0007
Optimus	0021
Panasonic	0000, 0107, 0021
Paragon	0000
Philips	0153
Pioneer	0144, 0533
Popular Mechanics	0400
Proscan	0021
Pulsar	0000
Quasar	0000

RCA	0021
Radio Shack	0015, 0315, 0797, 0883
Recoton	0400
Regal	0020, 0259
Regency	0002
Rembrandt	0011
Runco	0000
SL Marx	0040
Samsung	0144, 0040
Scientific Atlanta	0008, 0477, 0017, 0877
Signal	0015, 0040
Signature	0011
Sprucer	0021
Starcom	0003, 0015
Stargate	0015, 0040, 0797
Starquest	0015
TV86	0063
Television	0040
Tocom	0012, 0013
Toshiba	0000
Tusa	0015
Unika	0153
United Artists	0007
Universal	0153, 0191
Viewstar	0063
Zenith	0008, 0000, 0015, 0525
Zentek	0400

## Satellite or DBS Receivers:

AlphaStar	0772
Echostar	0775
Expressvu	0775
General Instrument	0627, 0361, 0869
HTS	0775
Hitachi	0819
Hughes Net. Sys.	0749
JVC	0775
Jerrold	0627, 0361
Magnavox	0724, 0722
Memorex	0724
Next Level	0869
Panasonic	0701
Philips	0724, 0722
Primestar	0627, 0361
Proscan	0566
RCA	0566, 0143, 0855
Radio Shack	0566, 0869
Sony	0639
Star Choice	0869
Toshiba	0790
Uniden	0724, 0722
Zenith	0856

## DVD Players:

Harman/Kardon	0582
JVC	0558
Kenwood	0534
Magnavox	0503
Mitsubishi	0521
Onkyo	0503
Optimus	0525
Panasonic	0490
Philips	0503, 0539
Pioneer	0525, 0571
Proscan	0522
RCA	0522
Samsung	0573
Sony	0533
Technics	0490
Theta Digital	0571
Toshiba	0503
Yamaha	0490, 0545
Zenith	0503, 0591

## Laser Disc Players:

Denon	0059
Mitsubishi	0059
NAD	0059
Pioneer	0059
Sony	0193, 0201

# SPECIFICATIONS

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## PREAMPLIFIER

<b>Input Impedance</b> .....	25 k $\Omega$
<b>Main Output Impedance</b> .....	300 $\Omega$
<b>Record Output Impedance</b> .....	51 $\Omega$
<b>Rated Input</b> .....	1.0 Vrms
<b>Maximum Input</b> .....	4.0 Vrms
<b>Rated Output (100 k<math>\Omega</math> load)</b> .....	1.0 Vrms
<b>Minimum Load</b> .....	5 k $\Omega$
<b>Maximum Output</b> .....	3.3 Vrms
<b>Headphone Output</b> .....	60 mW into 32 $\Omega$ at 0.2% THD+N
<b>Volume Range</b> .....	-80.0 to +8.0 dB in 0.5 dB increments
<b>Crossover</b>	
High-Pass Slope .....	12 dB/octave (2nd order) Butterworth
Low-Pass Slope (Subwoofer) .....	24 dB/octave (4th order) Linkwitz-Riley
Crossover Frequency .....	80 Hz
<b>Tone Control</b>	
Bass Center Frequency .....	100 Hz
Treble Center Frequency .....	6 kHz
Range .....	$\pm$ 12 dB in 2 dB increments
<b>Channel Separation (at 1 kHz)</b> .....	94 dB
<b>Crosstalk Between Inputs (at 1 kHz)</b> .....	86 dB
<b>Frequency Response and Bandwidth</b>	
Main Outputs .....	20 Hz to 20 kHz ( $\pm$ 0.2 dB), 1 Hz to 120 kHz (+0, -3 dB)
Record Outputs .....	10 Hz to 20 kHz (+0, -0.2 dB), DC Hz to 150 kHz (+0, -3 dB)
<b>THD+N (1 kHz, rated input and output, 80 kHz BW)</b>	
Main Outputs .....	0.005%
Record Outputs .....	0.001%
<b>IMD (CCIF at 15 kHz &amp; 16 kHz)</b>	
Main Outputs .....	0.002%
Record Outputs .....	0.001%
<b>S/N Ratio (IEC-A filter)</b>	
Main Outputs .....	100 dB
Record Outputs .....	112 dB

# SPECIFICATIONS continued

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## FM TUNER

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### Sensitivity

50 dB S/N ..... 13 dB $\mu$  typ., 25 dB $\mu$  max.  
IHF ..... 10 dB $\mu$  typ., 20 dB $\mu$  max.

### S/N Ratio

Mono ..... 75 dB typ., 65 dB min.  
Stereo ..... 69 dB typ., 60 dB min.

### Distortion

Mono ..... 0.2% typ., 1.0% max.  
Stereo ..... 0.3% typ., 1.5% max.

**Stereo Separation** ..... 40 dB typ., 25 dB min.

**Adjacent Channel Selectivity** ( $\pm 400$  kHz) ..... 70 dB typ., 60 dB min.

**Frequency Response** ..... 25 Hz to 15 kHz +0, -2 dB

## AM TUNER

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**Sensitivity** (20 dB S/N) ..... 49 dB $\mu$  typ., 56 dB $\mu$  max.

**S/N Ratio** ..... 50 dB typ., 43 dB min.

**Distortion** ..... 0.7% typ., 2.0% max.

**One Signal Selectivity** ( $\pm 10$  kHz) ..... 24 dB typ., 18 dB min.

## CONTROL

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### Infra Red Remote

Carrier Frequency ..... 38 kHz  
External Receiver Input Jack ..... 3.5 mm mono

### Trigger Output

Jack ..... 3.5 mm mono (tip positive, sleeve ground)  
Maximum Output ..... 50 mA at 12 VDC

## POWER REQUIREMENTS

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**Supply Voltage** ..... 105-130 V, 60 Hz

**Power Consumption** ..... Maximum 25 W

**Fuse Rating** (Fuse is internal) ..... 500 mA slow-blow 5x20mm

## DIMENSIONS

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**Width** ..... 17  $\frac{1}{4}$  inches (43.8 cm)

**Height** ..... 4  $\frac{1}{8}$  inches (10.5 cm)

**Depth** ..... 11  $\frac{1}{4}$  inches (28.6 cm)

**Weight** ..... 14 lbs. (6.4 kg)

Audio measurements were performed with an Audio Precision System Two. Specifications and features are subject to change without notice as design improvements are incorporated.

# LIMITED WARRANTY

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## CANADA & USA

The warranty period on Anthem products is five (5) years for power amplifiers and integrated amplifiers, three (3) years for audio preamplifiers and audio processing, two (2) years for video equipment and video processing, one (1) year for remote controls, and six (6) months for projector lamps from date of purchase from Anthem or an Authorized Anthem Dealer. If Anthem determines that the product has a defect in materials or manufacturing during the 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.

This warranty is transferable only if the re-sold product is purchased from an Authorized Anthem Dealer. Display products sold by an Authorized Anthem Dealer 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.

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 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.

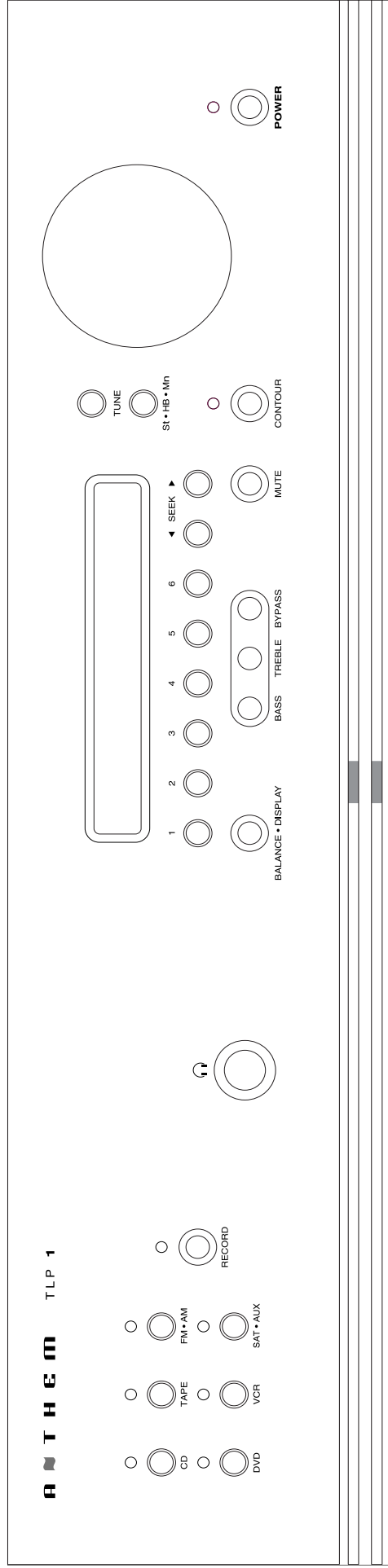
This warranty shall be the sole and exclusive remedy to you. No other warranty or condition, statutory or otherwise, expressed or implied, shall be imposed upon Anthem nor shall any representation made by any person, including a representative or agent of Anthem, be effective to extend the warranty coverage 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.

# THE BIG PICTURE FRONT PANEL



# THE BIG PICTURE REAR PANEL


**ANTHEM** TLP 1

MADE IN CANADA by SONIC FRONTIERS INTERNATIONAL  
SERIAL NO.:

LF 103295  
has been certified by CSA


CHASSIS GROUND

RS-232




ANTENNA


F.M. 75 Ω



A.M. 300 Ω




115V ~ 60Hz  
25 VA MAXIMUM




**WARNING:**  
SHOCK HAZARD DO NOT OPEN.

**AVERTISSEMENT:**  
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIE.


**CAUTION**  
RISQUE DE CHOC ELECTRIQUE NE PAS OUVRIE



I.S. RECEIVER



RELAY TRIGGER +12V/500mA



**ANALOG AUDIO-IN**

CD	TAPE	DVD	VCR	SAT-AUX
L R	L R	L R	L R	L R

**ANALOG AUDIO-OUT**

FIXED OUTPUTS		SUBWOOFER (Mono)		MAIN	
RECORD	ZONE 2	LOW PASS	FULL RANGE	HIGH PASS	FULL RANGE
L R	L R	1	2	L R	L R
		80 Hz ±20dB	80 Hz ±20dB	80 Hz ±20dB	80 Hz ±20dB



**DESIGNED AND MANUFACTURED IN NORTH AMERICA**

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[www.anthemAV.com](http://www.anthemAV.com)