

EMOTIVA®



Differential Reference®

Design Series User Manual

Important Safety Precautions and Explanation of Symbols



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important installation, operation, and service instructions in this manual.



The lightning flash with arrowhead symbol within an equilateral triangle is intended to alert the user to the presence of uninsulated dangerous voltages within the enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to the user.

Please read this manual thoroughly before attempting to install, configure, or operate your Differential Reference component. After successful installation and configuration of the Differential Reference component, be sure to retain this manual in a safe place for future reference.

Safety is a key component to a long lasting and trouble free installation. Please read and follow all instructions and heed all warnings on the component and in this manual. The vast majority of the subsequent safety precautions are common sense. If you are not comfortable with the installation of audio/video entertainment equipment, you should seek the services of a qualified installation professional or call us for help.



WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT USE YOUR DIFFERENTIAL REFERENCE COMPONENT NEAR WATER OR IN WET LOCATIONS, DO NOT EXPOSE IT TO RAIN OR MOISTURE, DO NOT EXPOSE IT TO DRIPPING OR SPLASHING FROM OTHER SOURCES, AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS (SUCH AS VASES) ARE PLACED ON IT. DOING SO MAY RESULT IN DAMAGE TO THE UNIT AND THE RISK OF ELECTRIC SHOCK, WHICH MAY RESULT IN BODILY INJURY OR DEATH.



WARNING: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE THE COVER FROM THE DIFFERENTIAL REFERENCE COMPONENT. THERE ARE NO USER-SERVICEABLE PARTS INSIDE THE UNIT. REFER ALL SERVICE TO QUALIFIED SERVICE PERSONNEL.

Do not install the Differential Reference component near or above any heat sources such as radiators, heating vents, or other apparatus that produce heat. Do not block any ventilation openings or heat sinks. Avoid installing the unit directly above other heat-producing equipment unless sufficient ventilation or forced-air cooling is provided.

Do not install the Differential Reference component in locations without proper ventilation. The Differential Reference component should not be operated on a bed, sofa, rug, or similar surface that may block vents. The unit should not be installed in an enclosed location such as a bookcase, cabinet, or closed equipment rack unless sufficient forced-air ventilation is provided.

Always install your Differential Reference component according to the manufacturer's instructions and only use attachments or accessories specified by the manufacturer.

Do not install the Differential Reference component on any stand, shelf, or other piece of furniture that is unable to support its weight. If a cart is used to move the unit, use caution to avoid injury from tip-over.

Connect the Differential Reference component only to power sources of the correct voltage (as shown in this manual and on the component).

Protect power supply cables from being pinched, walked on, or otherwise damaged. Be especially careful where the power cable enters the power outlet and the unit.

Only connect the Differential Reference component to an electrical outlet or extension cord of appropriate type and rating.

DO NOT defeat the safety purpose of a grounding or polarized plug by removing ground pins or using unsafe adapters. A polarized plug has two blades - one wider than the other. A grounding plug has a third ground prong in addition to the two main conductors. The wide blade or third grounding prong is provided for your safety. If the provided plug does not fit your outlet, consult an electrician to replace your obsolete outlet. If you replace the power cord, only use one of similar type and equal or greater current rating.

The power cable for the Differential Reference component should be unplugged from the outlet during severe electrical storms, or when unused for a long period of time.

Only replace the fuse(s) in the Differential Reference component with fuse(s) of proper value and voltage rating.



The Differential Reference component should only be cleaned as directed in the manual. Avoid spraying liquids directly onto the unit and NEVER spray liquids into the vents. Care should be taken so that small objects do not fall into the inside of the unit.

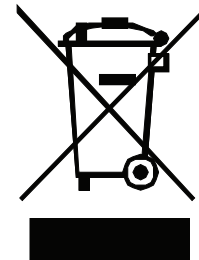
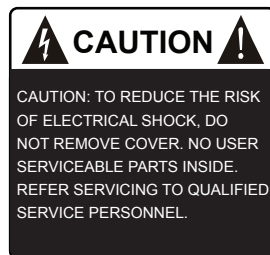


You should seek service for your Differential Reference component by qualified service personnel if any of the following occur:

1. The power-supply cord or the plug has been damaged.
2. Objects or liquid have fallen or spilled into the vents.
3. The unit has been exposed to rain.
4. The unit exhibits a marked change in performance.
5. The unit has been dropped, or its enclosure or chassis is damaged.

NOTE: TO COMPLETELY DISCONNECT THE DIFFERENTIAL REFERENCE COMPONENT FROM THE AC POWER MAINS, DISCONNECT THE AC POWER CORD FROM THE AC RECEPTACLE.

NOTE: THE POWER CORD ON THE DIFFERENTIAL REFERENCE COMPONENT MUST REMAIN READILY ACCESSIBLE AT ALL TIMES.



FCC Interference Statement

Note: 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 the 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 of the receiver.

Consult the dealer or an experienced radio/TV technician for help.

Emotiva Audio Corporation
Attn: Repair Department
139 Southeast Parkway Court
Franklin, TN 37064

Tel 1-877-366-8324
www.emotiva.com

Differential Reference Design Series Components



Differential Reference Design Series Components

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Differential Reference Design Series Components

Differential Reference Design Series Components

Introduction

Each of our new Differential Reference Design Series components has been designed from the ground up to deliver state of the art audio performance in a compact form factor. Individually, each delivers excellent technical performance, and superb sound quality, and will be a great addition to any high-end audio system. Together, they form a system that will satisfy the most demanding audiophile, while still being compact enough to fit comfortably in any office or living room.

Of course each individual Differential Reference Design Series component is also a stellar performer in its own right and will make an impressive addition to an existing audio system.

The DRS-1 Differential Reference Streamer - is a state of the art audio streamer, based on the popular Volumio Premium streaming platform, with a built-in audiophile quality DAC, both digital and analog audio outputs, and both wired and WiFi network connections, as well as an HDMI video output for displaying album art and content information.

The DRD-1 Differential Reference DAC - is an audiophile quality digital-to-analog converter which, in addition to the standard digital audio inputs, includes an HDMI ARC input that can accept a stereo digital audio signal directly from your TV.

The DRP-1 Differential Reference Preamp - is a reference quality analog preamp, with a pure analog signal path, precision bass management by way of precision high-pass and low-pass filter sections, and a built-in high performance MM/MC phono preamp.

The DRA-1 Differential Reference Amplifier - is an audiophile quality stereo power amplifier based on the latest superb sounding, high efficiency, two channel Hypex NCx252MP Class-D amplifier solution.

Both the DRD-1 Differential Reference DAC and the DRP-1 Differential Reference Preamp are controlled by a single solid metal compact remote control. The DRS-1 Differential Reference Streamer can be controlled by its own dedicated app or from a standard web browser running on any device connected to the network. And the DRA-1 Differential Reference Amplifier can be controlled by a standard trigger signal from one of the other DR Series components, or any other device that has a standard trigger output.

Whether you choose one Differential Reference Design Series component, or opt for the whole set, we're sure that you'll enjoy listening to them as much as we enjoyed designing and manufacturing them for you.

Happy Listening!

The Emotiva Team

Differential Reference Design Series Components

DRS-1 Differential Reference Streamer

DRS-1 Differential Reference Streamer

The DRS-1 Differential Reference Streamer is the ideal way to add a variety of streaming audio and file playback options to any high performance two-channel or home theater audio system. The DRS-1 is a true audiophile quality music source, which allows you to access most major streaming services and Internet Radio feeds, and enables you to play a wide variety of files directly from USB-connected flash drives and hard drives, or from network attached storage devices.

The DRS-1 is permanently licensed with a pre-installed copy of the Volumio Premium software platform, which supports a powerful and ever-expanding suite of advanced options, including support for most major streaming services, including native Qubuz and Tidal integration, and internal support for Spotify, as well as multiroom synchronized playback, and the ability to stream content directly to Sonos and Chromecast devices. Options like SuperSearch and Infinity Playback enable you to effortlessly locate whatever content you prefer, or to configure Volumio to locate an endless stream of curated content custom selected to match your preferences - either by track or based on artists and content that match your musical tastes. Local playback includes support for most audio file types including MP3 and high-resolution FLAC, PCM, and DSD audio files, which can be played directly from a USB stick or hard drive, or from a local network-attached storage device. DLNA, UPNP, and Airplay Playback are also supported, and Volumio is Roon Ready.

The DRS-1 can be controlled in a variety of different ways, including a dedicated IOS or Android app on your smart phone or tablet, or a standard Web browser on any computer, tablet, or smart phone connected to your network. In addition to those options, the DRS-1 has an HDMI video output, which you can use not only to view album and status information, and enhanced content information provided by the Volumio Manifest UI, but which can also be used to control the DRS-1 using a mouse or trackball and keyboard connected via USB.

The audio circuitry in the DRS-1 was a joint design effort - developed in collaboration with the engineers at Volumio and further refined here at Emotiva. The DRS-1 has both digital and analog audio outputs and can be used with virtually any two-channel or surround sound system. The digital audio outputs include both optical (Toslink) and electrical (Coax) S/PDIF outputs. The analog audio outputs, which include both unbalanced (RCA) and balanced (XLR) connections, receive their audio signal from a superb sounding ESS ES9038Q2M SABRE³² Reference DAC. The highly optimized analog signal path features high-performance MC33078 operational amplifiers, and premium OPA1656 op-amps in critical locations, for the best possible analog performance, and absolutely superb sound quality.

We designed the DRS-1 from the ground up to be a true audiophile streamer, whether you connect it to an external DAC like our DRD-1 Differential Reference DAC, or to a processor like our RMC-1, or connect one of its analog outputs directly to a high quality analog preamp. Whichever way you go we're sure you'll enjoy using the DRS-1 as much as we enjoyed designing and perfecting it.

DRS-1 Differential Reference Streamer

DRS-1 Differential Reference Streamer Feature Highlights

- The DRS-1 is a Volumio Premium *device*.
(Volumio Premium features with no need to purchase a Volumio Premium subscription.)
- True audiophile sound quality.
- Support for most major streaming services.
- Control via a dedicated Volumio App on Android or IOS devices or via a standard Web browser on any device connected to your network - including smart phones, tablets, and computers.
- HDMI video output that enables the DRS-1 to display content and track information, and additional enhanced content provided by the Volumio Manifest UI, on a connected TV or monitor.
- Support for local playback of files from both USB and network attached storage devices.
- Support for virtually all common audio file formats, including but not limited to: WAV (PCM), FLAC, MP3, OGG, AAC, DSF, DFF at both standard and high-res sample rates.
- Support for UPNP, DLNA, Airplay Playback, and Roon Ready.
- Digital audio outputs including optical S/PDIF (Toslink) and electrical S/PDIF (Coax).
- Both unbalanced (RCA) and balanced (XLR) analog audio outputs.
- Precision engineered analog circuitry and highly optimized analog signal path.
- Superb analog audio from the internal ESS ES9038Q2M SABRE³² Reference DAC.
- True fully balanced fully differential operation from the DAC chip to the balanced outputs.
- The unbalanced analog output is derived directly from the differential output of the DAC for the best possible sound quality.
- Volumio Premium features like Volumio's Manifest UI and curated music selections.
- Multiroom support with other Volumio Premium devices.
- Trigger Input and Trigger Output enable the DRS-1 to both control and be controlled by other trigger-enabled equipment.
- Universal line voltage operation.

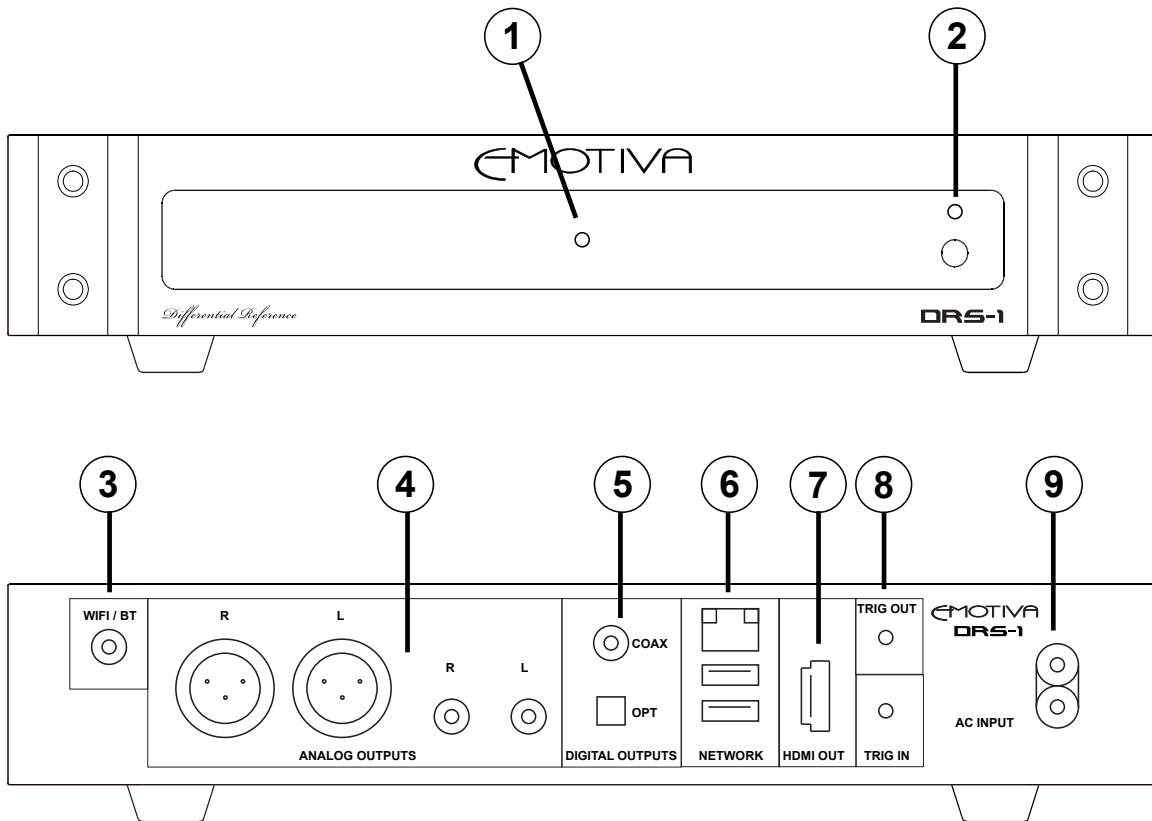
You can find more information about the Emotiva DRS-1 on our website at: **www.emotiva.com**

You can find more information about Volumio Premium at: **<https://volumio.com/get-started/>**

Or check out the DRS-1 section on The Emotiva Lounge: **<https://emotivalounge.proboards.com/>**

DRS-1 Differential Reference Streamer

DRS-1 Differential Reference Streamer



1. Status LED

- When the DRS-1 is in Standby the Status LED will NOT be illuminated.
- When the DRS-1 is On and operating normally the Status LED will be illuminated BLUE.
- The Status LED will FLASH BLUE when the DRS-1 is On but doesn't have a network connection.

2. Standby Button and Standby LED

- When the DRS-1 is in Standby the Standby LED will be illuminated SOLID AMBER.
- When the DRS-1 is On the Standby LED will NOT be illuminated.
- Pressing the Standby BUTTON toggles the DRS-1 between Standby mode and On.

Note: Once the DRS-1 has been configured... When the DRS-1 is first powered On the Standby LED will illuminate SOLID RED and the Status LED will NOT be lit. Pressing the Standby BUTTON at this point will turn the DRS-1 On. When you do so the Standby LED will change to BLINKING AMBER for about a minute while the DRS-1 completes its startup process. The Standby LED will then extinguish and the Status LED will illuminate BLUE. This indicates that the DRS-1 is On and has a network connection. If the Status LED changes to FLASHING BLUE at this point that means that the DRS-1 is On but has failed to acquire a network connection.

DRS-1 Differential Reference Streamer

Note: The DRS-1 will switch to Standby mode if it has not played anything for a preset time. You can enable and disable this under Auto Power Saving in the Volumio System menu. Once you enable Auto Power Saving you will be able to configure the Timeout value.

Note: If the DRS-1 is in Standby mode it will turn On if you instruct it to play something (by pressing Play on the APP).

3. WiFi Antenna

This antenna provides a connection to your WiFi router or WiFi network.

4. Balanced and Unbalanced Analog Audio Outputs

These are the main analog audio outputs on the DRS-1.

Both Balanced (XLR) and Unbalanced (RCA) outputs are active at all times.

5. Coaxial and Optical (Toslink) Digital Audio Outputs

These are the main digital audio outputs on the DRS-1.

6. Network (Ethernet) and USB Connections

The Ethernet connection is used to connect the DRS-1 to a wired network connection.

The USB ports on the DRS-1 can be used to connect a variety of USB devices including:

- a keyboard
- a mouse
- an external USB DAC
- a USB flash drive or USB hard drive containing music

7. HDMI Video Output

The HDMI port on the DRS-1 is a video output which normally is used to display either the operating console of the DRS-1 or a variety of available album cover images and content data provided by the Volumio Manifest UI.

WARNING: THE HDMI CONNECTION ON THE DRS-1 IS A VIDEO OUTPUT INTENDED TO BE CONNECTED TO A TV, OR A MONITOR, OR TO AN HDMI INPUT ON AN AVR OR PROCESSOR. ATTEMPTING TO CONNECT THIS OUTPUT TO AN I2S DIGITAL AUDIO INPUT OR OUTPUT ON ANOTHER DIGITAL AUDIO DEVICE USING AN HDMI CABLE MAY RESULT IN PERMANENT DAMAGE TO THE DRS-1 OR THE OTHER DIGITAL AUDIO DEVICE.

IMPORTANT NOTE:

When an HDMI TV or monitor is connected to the DRS-1 you can see the Volumio MANIFEST screen, which includes configuration information as well as album information on the screen. There is no setting required to enable this feature. However THE MONITOR MUST ALREADY BE CONNECTED WHEN THE DRS-1 IS POWERED ON.

DRS-1 Differential Reference Streamer

8. Trigger Output and Trigger Input

The DRS-1 will turn On from Standby when a nominal 12VDC signal is received from another device at its Trigger Input. The DRS-1 will remain On as long as this trigger signal is present. When the DRS-1 is On a nominal 12VDC signal will be provided by its Trigger Output which can be used to turn on other trigger-enabled devices (like the DRA-1 Differential Reference Series amplifier).

9. Power Cord Receptacle

The DRS-1 can be powered by any receptacle that provides between 90 VAC and 250 VAC at 50 or 60 Hz, and will automatically detect and adjust itself to the correct voltage for your area.

We provide a high quality commercial power cable with the DRS-1. However the AC power cable can be replaced if desired with any high quality third party power cable that is terminated with the appropriate IEC connector.

DRS-1 Differential Reference Streamer

DRS-1 Startup and Operation

Your Emotiva DRS-1 Differential Reference Streamer is a dedicated audiophile streaming device that works with the Volumio Premium streaming platform and application. The hardware in the DRS-1 is controlled by the Volumio software platform and application; in order to use the DRS-1 Differential Reference Streamer it must be linked to a Volumio user account. You may either create a new Volumio account for your DRS-1 or connect it to an existing Volumio account you already have. The DRS-1 is a Volumio Premium device - and will have access to all Volumio Premium features whether you create a new account for it, or connect it to an existing account, even if your existing account is a Volumio Free account. The DRS-1 comes pre-loaded with the Volumio streaming platform software - and can be configured to automatically update itself as required over its network connection.

IMPORTANT NOTE:

THE DRS-1 MUST BE ASSOCIATED WITH A VOLUMIO ACCOUNT IN ORDER TO OPERATE.

YOU MUST EITHER CREATE A NEW VOLUMIO ACCOUNT FOR YOUR DRS-1, OR CONNECT YOUR DRS-1 TO AN EXISTING VOLUMIO ACCOUNT, IN ORDER TO ACCESS ALL OF ITS FEATURES.

As a Volumio Premium Device, your DRS-1 will gain access to all Volumio Premium features, regardless of what type of Volumio account it is linked to. YOU DO NOT NEED TO SUBSCRIBE TO OR PAY FOR A VOLUMIO PREMIUM ACCOUNT TO ACCESS THESE FEATURES ON YOUR DRS-1.

Note: The Volumio Account you link your DRS-1 to at this point authorizes Volumio itself, and the Volumio Premium features on the DRS-1 Differential Reference Streamer. IN ADDITION TO THIS MOST COMMERCIAL STREAMING SERVICES WILL REQUIRE YOU TO PURCHASE A SUBSCRIPTION TO ACCESS THEM. These subscriptions are NOT included with the purchase of your DRS-1. (So, for example, even though Volumio on the DRS-1 includes an internal Tidal Connect App, which you can use to access an existing Tidal account, you will still need to purchase a Tidal SUBSCRIPTION in order to use the Tidal streaming service .)

When you first receive your DRS-1 Differential Reference Streamer it will be unconfigured. (It will be in the same state as after running a "Factory Reset".)

Most people will configure and control their DRS-1 via WiFi, using a smart phone or tablet, even if they later add a wired Ethernet connection for streaming, and the standard Initial Configuration process is done via WiFi. In the following instructions we will be assuming that you are configuring your DRS-1 using this method.

You will be creating a FREE Volumio account as part of the configuration process. If you already have a Volumio account you may enter that information, and link your DRS-1 to that account, at the appropriate point in the process. BECAUSE THE DRS-1 IS LICENSED AS A VOLUMIO PREMIUM DEVICE IT WILL HAVE ACCESS TO ALL VOLUMIO PREMIUM FEATURES WITHOUT THE NEED TO CREATE OR SUBSCRIBE TO A VOLUMIO PREMIUM ACCOUNT.

DRS-1 Differential Reference Streamer

BEFORE YOU BEGIN YOU WILL NEED:

1. A device, usually a smart phone or tablet, on which you plan to install and use the Volumio application, and which has WiFi capabilities.
2. The information, including the NAME and PASSWORD, required to access your WiFi network.

THE BASIC STEPS ARE AS FOLLOWS:

1. Locate the VOLUMIO application in the App Store and download and install it on your device. (If you already have Volumio installed on your device make sure you have the latest version.)
2. Connect your DRS-1 to a power source and turn the unit on.

At this point the Status LED will NOT be lit and the Standby LED will be SOLID RED.

3. Press the Standby Button.

*The Standby LED will FLASH AMBER for about a minute while the DRS-1 starts up.
The Standby LED will then extinguish and the Status LED will start to FLASH BLUE.*

4. Run the APP on your phone or tablet.

When the APP opens it will display a picture of the DRS-1 with a banner identifying it as "NEW" and a button that says "+SETUP". (Any other Volumio devices you already have connected and configured will also be listed on this screen.)

5. Click on the +SETUP button and follow the prompts to configure your DRS-1.
6. On the next page select a name for your DRS-1.

At the bottom of the screen, on the screen where you are prompted to select a name for your device, you will see a message that says: "Device available locally at" followed by a web page address. This is the address you can use to connect to your DRS-1 locally using a Web browser. This will enable you to control your DRS-1 from a standard Web browser on any device connected to the same network. (This address is derived from the name you configured for your DRS-1... and will work with most Web browsers on most devices. You should probably make a note of it.)

7. Please select WiFi on the next page when prompted to select WiFi or Ethernet.
8. Most users will want to select "Digital + Analog" output when that option is offered.

At this point you will be presented with several more screens of options, and a short set of screens explaining some of the features of Volumio Premium. You can simply accept these... and grant permissions when and if asked to do so.

Once your DRS-1 is initially configured you will be able to connect to it using the Volumio APP or a Web browser on any device connected to the same network.

If you have connected your DRS-1 to a TV or monitor via its HDMI video output, you will also see the Volumio control screen, which includes detailed album information provided by the Volumio Manifest interface, on your TV or monitor. If you do so you may also control the DRS-1 directly via a computer mouse plugged into one of its USB ports. (To do this you will need to enable the on-screen mouse pointer by clicking: System | Video Output Options | Show Mouse Pointer).

DRS-1 Differential Reference Streamer

DRS-1 Specifications

Circuit Highlights:

Digital to Analog Conversion: ESS ES9038Q2M SABRE³² Reference DAC.

(32 bit Stereo DAC with Hyperstream® II DAC architecture and Time Domain Jitter Eliminator).

Analog Signal Path Active Electronics: MC33078 and OPA1656

(high-speed, low-distortion, audio operational amplifiers).

Topology:

The DRS-1 is a high performance two channel audio streamer based on the popular Volumio Premium operating system. The DRS-1 can play content from a variety of streaming services, from locally connected USB storage devices, and from network-attached storage devices. The DRS-1 includes both a variety of digital audio outputs, and both balanced and unbalanced analog audio outputs, powered by an internal high-performance DAC that uses the ESS ES9038Q2M SABRE³² Reference DAC chip. An HDMI video output is included, which displays the console screen of the unit, and can be used to display track information, album cover art, and other content information.

Connectivity:

Balanced analog outputs (XLR); variable level controlled by Volumio software: 1 pair.

Unbalanced analog outputs (RCA); variable level controlled by Volumio software: 1 pair.

Digital audio outputs, optical S/PDIF (Toslink); fixed level: 1.

Digital audio outputs, electrical S/PDIF (Coax); fixed level: 1.

Network connection, wired Ethernet: 1.

Network connection, WiFi: 1.

USB ports: 2 (can be used to connect USB audio storage devices or mouse / keyboard).

HDMI output, video: 1 (displays configuration, track info, or Manifest UI on TV or monitor).

Trigger Input / Output: 1 each.

Rated Output:

Balanced (XLR; at 0 dB in): 4.2 VRMS .

Unbalanced (RCA; at 0 dB in): 2.1 VRMS.

Frequency Response and Distortion (analog outputs)

Frequency Response: 20 Hz to 20 kHz +/-0.2 dB (44.1k and above sample rates).

Broadband Frequency Response: 5 Hz to 80 kHz +0/-2 dB

Signal to Noise (S/N Ratio): > 116 dB.

THD+N (ref 0 dB): < 0.01%.

THD+N (ref -6 dB): < 0.002%.

DRD-1 Differential Reference DAC

DRD-1 Differential Reference DAC

The DRD-1 Differential Reference DAC is a superb audiophile quality digital-to-analog converter which, in addition to the standard digital audio inputs, includes an HDMI ARC input that can accept a stereo digital audio signal directly from your TV.

The DRD-1 has a variety of digital audio inputs, including one optical (Toslink) S/PDIF input, one electrical (Coax) S/PDIF input, and one high performance USB digital audio input. The USB input on the DRD-1 accepts stereo PCM digital audio at bit depths and sample rates up to 32/768k, DSD digital audio in the DoP format up to DoP256, and DSD digital audio in the native DSD format up to DSD512. The HDMI-ARC input accepts a digital audio signal directly from your TV, which enables the DRD-1 to play audio from TV apps, and from other HDMI sources connected to your TV. The DRD-1 offers both balanced (XLR) and unbalanced (RCA) outputs. The outputs on the DRD-1 are fixed-level and were designed to provide the shortest and purest signal path possible for use with a preamp or other device that has its own volume control.

Digital audio received by the DRD-1 is converted into analog by an audiophile quality ESS ES9038Q2M SABRE32 Reference DAC chip and its associated precision power supply and reference circuitry. The fully balanced fully differential analog output from the DAC is then routed directly to the balanced analog outputs via low-distortion ultra-low-noise op amps. A separate balanced-to-unbalanced converter stage derives the unbalanced output signal for the RCA outputs directly from the fully differential output signal.

An attractive fully dimmable blue OLED display shows the sample rate and format of the incoming audio signal, and switches momentarily to show which Input is selected when you switch inputs.

The machined aluminum remote control works with both the DRD-1 Differential Reference DAC and our new DRP-1 Differential Reference Preamplifier. This single unified remote control can be used to switch both units to and from Standby, to adjust the display brightness on both, and to individually select inputs on each, as well as to control several other features on the preamp.

We designed the DRD-1 from the ground up to accept a variety of two-channel digital audio inputs and convert them into superb audiophile quality analog audio. When paired with an equally high quality analog preamp or control center the DRD-1 will take your digital listening experience to a whole new level. We hope you enjoy using your DRD-1 as much as we enjoyed designing and perfecting it.

DRD-1 Differential Reference DAC

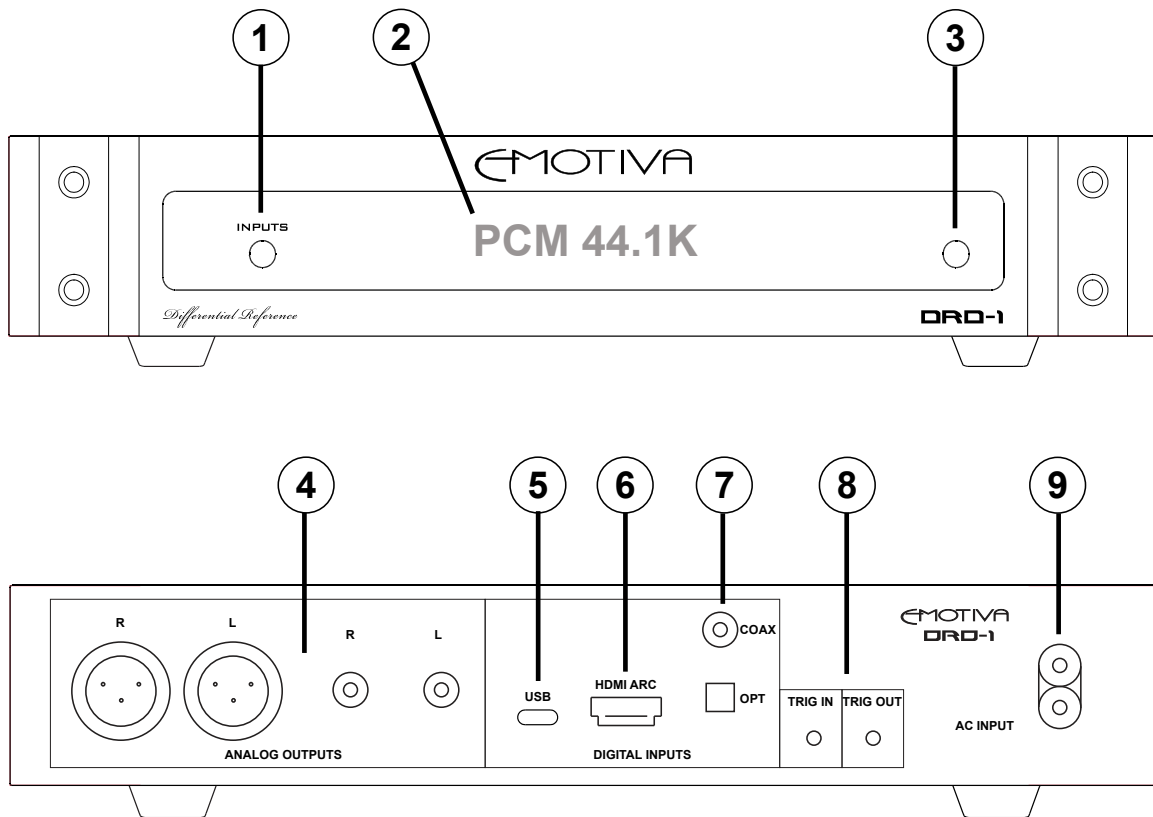
DRD-1 Differential Reference DAC Feature Highlights

- Truly superb audiophile quality analog performance.
- Both balanced (XLR) and unbalanced (RCA) analog outputs.
- Fixed output level for the best possible sound quality when used with a preamp or other device which includes a volume control.
- No drivers required with current Windows, Apple, and many Linux computers.
- Two S/PDIF digital inputs - one coax and one optical - support up to 24/192k stereo PCM.
- One high-performance USB digital input supports stereo PCM digital audio up to 32/768k, DoP DSD audio up to DoP256, and native DSD audio up to DSD512.
- One HDMI-ARC input which accepts digital audio directly from the ARC input of your TV.
- Audiophile quality ESS ES9038Q2M SABRE³² Reference DAC chip.
- ESS Hyperstream® II DAC architecture and Time Domain Jitter Eliminator for exceptional digital performance and superb sound quality.
- Differential Reference™ balanced design with OPA1656 and OPA1678 low-distortion ultra-low-noise op amps used throughout the analog stages.
- True fully balanced fully differential operation from the DAC chip to the balanced outputs.
- Separate balanced-to-unbalanced converter stage for the unbalanced outputs.
- Trigger Input and Trigger Output enable the DRD-1 to both control and be controlled by other trigger-enabled equipment.
- Informative front panel display with configurable brightness for input and sample rate.
- Universal line voltage operation and low Standby power consumption.

You can find more information about the Emotiva DRD-1 on our website at www.emotiva.com.

DRD-1 Differential Reference DAC

DRD-1 Differential Reference DAC



1. Input Select Button

This button cycles through the Inputs on the DRD-1.

2. Front Panel OLED Display

When there is an active audio signal this display will show the sample rate and format of the incoming audio signal; when there is no signal it will display No Signal; and when you change inputs the display will briefly switch to show the Input you select.

Note: The brightness of the Front Panel Display can be adjusted using the Dim function on the remote control.

3. Power / Standby Button and Indicator LED

Pressing this button when the DRD-1 is in Standby will turn the DRD-1 On.

Pressing the button when the DRD-1 is On will set the DRD-1 to Standby.

The Standby Indicator LED will be illuminated Amber when the DRD-1 is in Standby mode.

The Standby Indicator LED will NOT be illuminated when the DRD-1 is On.

Note: The DRD-1 does not have a rear panel power switch. The DRD-1 uses very little power in Standby mode and should normally remain in Standby mode when not in use.

DRD-1 Differential Reference DAC

4. Balanced and Unbalanced Analog Outputs (Fixed Level)

The DRD-1 offers both stereo unbalanced (RCA) and stereo balanced (XLR) outputs.

Note: The Analog Outputs on the DRD-1 operate at a fixed output level. The DRD-1 is designed to be connected to a line level analog input on a device that includes a volume control - like our DRP-1 Differential Reference Preamplifier. WE DO NOT RECOMMEND CONNECTING THE OUTPUT OF THE DRD-1 TO AN INPUT ON A DEVICE THAT LACKS A VOLUME CONTROL.

5. USB Digital Audio Input

The USB audio input on the DRD-1 is used to connect a computer or other digital audio source device to the DRD-1. Your computer or source device will recognize the DRD-1 as a USB Audio Class 2 (UAC2) compliant “USB audio output device” or “external USB DAC”.

Some source devices may identify the DRD-1 as “Emotiva DRD-1”, while others may report it as “SXW CTUAD768 PRM-A”, which is the name of the high performance USB audio interface chip we use. And, if you’ve installed special drivers, it may be identified by the driver or drivers you’ve chosen to use. See the section entitled Using The USB Input for more details.

6. HDMI-ARC Digital Audio Input

Use this input to connect the DRD-1 to the ARC (Audio Return Channel) output of a TV set or projector. The DRD-1 is a STEREO DAC and so will only accept a stereo audio input.

See the section entitled Using The HDMI ARC Input for more details.

Note: The HDMI-ARC connection on your TV is intended to deliver a digital audio OUTPUT to an AVR or preamp/processor when the audio source is either an App running on your TV or a device connected directly to one of the other inputs on your TV. HOWEVER, EVEN THOUGH YOU WILL BE USING THE HDMI-ARC CONNECTION ON YOUR TV TO OUTPUT A DIGITAL AUDIO SIGNAL, BECAUSE THAT CONNECTION IS ALSO NORMALLY USED TO INPUT A VIDEO SIGNAL TO THE TV, IT WILL BE LABELED ON YOUR TV AS AN “HDMI INPUT” or “HDMI/ARC/eARC INPUT”.

Note: The HDMI-ARC connection between your TV and the DRD-1 uses an ordinary HDMI cable. This connection does not require a high speed HDMI cable. HOWEVER, BE SURE TO USE AN HDMI CABLE THAT INCLUDES AN ARC CONNECTION, WHICH VIRTUALLY ALL MODERN HDMI CABLES INCLUDE. IF YOU PLAN TO USE A SPECIAL POWERED HDMI CABLE OR OTHER TYPE OF HDMI EXTENDER, BE SURE THAT IT ALSO SUPPORTS ARC. ALSO NOTE THAT, WHILE WE EXPECT HDMI-ARC ON THE DRD-1 TO WORK WITH MOST POWERED CABLES AND EXTENDERS THAT SUPPORT ARC, WE CANNOT PROMISE THAT IT WILL, AND CANNOT PROVIDE SUPPORT IF YOU ARE UNABLE TO GET IT TO WORK.

WARNING:

THE HDMI-ARC INPUT ON THE DRD-1 IS INTENDED TO BE CONNECTED TO AN HDMI INPUT ON YOUR TV. IT WILL NOT WORK IF CONNECTED TO A STANDARD HDMI OUTPUT. SOME DIGITAL AUDIO SOURCES INCLUDE AN I2S DIGITAL AUDIO OUTPUT THAT USES AN HDMI CONNECTOR. *DO NOT* CONNECT THIS INPUT TO AN I2S DIGITAL AUDIO INPUT OR OUTPUT ON ANOTHER DEVICE. DOING SO MAY CAUSE PERMANENT DAMAGE TO ONE OR BOTH DEVICES!

DRD-1 Differential Reference DAC

7. Optical (Toslink) and Coax S/PDIF Digital Audio Inputs

These inputs accept optical S/PDIF (Toslink) and electrical S/PDIF (Coax) digital audio signals, in stereo PCM format, at sample rates up to 192k and bit depths up to 24 bits.

Note: The DRD-1 is a stereo PCM DAC and only accepts STEREO PCM digital audio signals. The DRD-1 CANNOT decode DTS, Dolby Digital, or other surround sound audio formats.

Note: For computer-based sources, or other source devices that support either higher sample rates, or other formats like DSD, use the USB Digital Audio input.

Note: If you attempt to play DTS-encoded audio files on some equipment that doesn't recognize DTS encoding, the undecoded DTS audio files may be sent to the DRD-1, which may result in an unpleasant digital screeching noise. (This will not harm anything, but it may be quite loud, and it suggests that your source equipment either cannot properly process DTS-encoded files, or is not configured correctly to do so.)

8. Trigger Input and Trigger Output

The DRD-1 will turn On from Standby when a nominal 12VDC signal is received from another device at its Trigger Input. The DRD-1 will remain On as long as this trigger signal is present. When the DRD-1 is On a nominal 12VDC signal will be provided by its Trigger Output which can be used to turn on other trigger-enabled devices.

9. Power Cord Receptacle

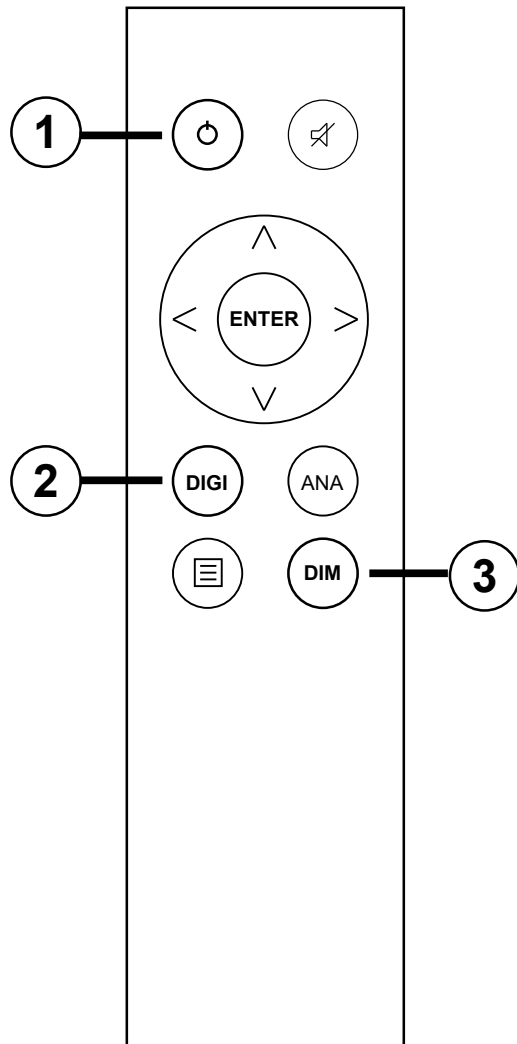
The DRD-1 can be powered by any receptacle that provides between 90 VAC and 250 VAC at 50 or 60 Hz, and will automatically detect and adjust itself to the correct voltage for your area.

We provide a high quality commercial power cable with the DRD-1. However the AC power cable can be replaced if desired with any high quality third party power cable that is terminated with the appropriate IEC connector.

DRD-1 Differential Reference DAC

Remote Control (use with DRD-1)

The same compact full-featured all metal remote control is included with both the DRD-1 Differential Reference DAC and the DRP-1 Differential Reference Preamp. If you are using both a DRD-1 and a DRP-1 in the same system, some buttons on your remote control will affect the operation of both units, but others are unique to one unit or the other. This section only describes the function of buttons that apply to the DRD-1.



1. Power / Standby Button

Pressing this button toggles the unit between Standby and On. (Remember that the Standby LED on the front panel is illuminated when the unit is in Standby and is NOT illuminated when the unit is On.)

2. Digital Input Select Button

This button is used to cycle through the digital inputs on the DRD-1.

3. Dim Button

Pressing the Dim Button repeatedly cycles through the brightness settings for the Front Panel OLED Display and for the illuminated legend for the Input Select Button. If you select DIM OFF the main display will be entirely dark; although it will light briefly to indicate when you change Inputs or if the incoming sample rate changes. After that, DIM 1 is the least bright and DIM 5 is the brightest.

Note: If you select the DIM OFF setting, the Standby LED will be lit amber when the unit is in Standby mode, but NOTHING WILL BE ILLUMINATED WHEN THE UNIT IS ON AND RUNNING, except briefly when you press a button or change inputs.

DRD-1 Differential Reference DAC

Using The USB Input

The USB Input on the DRD-1 is intended for connecting a computer or other computer-based digital audio source. The USB input on the DRD-1 will be recognized by the computer or source device as a standard USB Audio Class 2 external DAC or sound card, and supports PCM playback at bit depths and sample rates up to 32/768k, without the need to install any additional drivers. The DRD-1 will usually show up on your list of output devices as either Emotiva DRD-1 or SXW CTUAD768 (the chip identifier of the high performance USB hardware in the DRD-1).

The DRD-1 also supports playback of DSD audio files via USB. The DRD-1 supports DoP-via-USB at rates up to DoP256 and native-DSD at rates up to DSD512. Additional ASIO drivers, which we provide, must be installed in order to support playback of DSD files on Microsoft Windows. Some player programs for Apple computers reportedly include internal support for one or both of these options as well.

Note: The USB input on the DRD-1 will work, without additional drivers, on both current Windows and Apple computers, and some Linux devices, as well as many smart phones and other source devices, and supports PCM at sample rates up to and including 32/768k. However, by default, both Windows and Apple computers resample any digital audio they play to a preset default sample rate. Many higher quality player programs offer ways to bypass this resampling but each has specific settings and configuration options to do so.

Note: The DRD-1 supports true DSD playback via USB using two different methods: “DoP” and “native DSD”. Both of these methods are ways in which a DSD digital audio stream can be encapsulated and sent to the DAC via a PCM audio stream over USB. Both deliver an identical bit-perfect copy of the original DSD digital audio stream. (Native DSD uses packet bandwidth somewhat more efficiently and so permits a slightly higher DSD sample rate to be supported over a given connection.)

DoP, which is the more standard method, is supported by many high quality player programs. In order to use DoP on Windows computers, you must install the ASIO drivers, which we provide. Some Apple player programs also support DoP, with the necessary driver support being provided internally by the computer.

Native DSD, which is really a variant of DoP, is more complex to set up, and may require additional settings or additional software. (For example, in FooBar2000, a separate proxy converter program must be installed and configured in addition to the ASIO driver and support required to support the standard DoP format.)

Note: By default both Microsoft Windows and Apple computers use PCM as their preferred format for sending audio data to a DAC. In addition to this, some programs, when specifically configured to do so, can send DSD directly to the DAC. However, when you play other types of encoded or compressed audio files, like FLAC, or ALAC, or MP3, or AAC, the file is first decoded by the player program, then sent to the DAC as PCM (or DSD). Therefore, you have no need to worry about whether your DAC supports a specific file format, as long as your player program supports it.

DRD-1 Differential Reference DAC

Note: The USB Input on the DRD-1 will appear to your computer or other source component as an external DAC or sound card. The DRD-1 CANNOT play audio files directly from a USB stick.

Note: If you play MQA files, or MQA encoded audio from streaming sources, the important "first unfold" is usually performed by your player program. The DRD-1 is neither "an MQA renderer" nor "an MQA decoder". However you will find that MQA files that are unfolded by the player clientsound very good on the DRD-1.

WHILE WE CANNOT OFFER DETAILED SUPPORT FOR EVERY SOURCE DEVICE OR COMPUTER YOU MAY CHOOSE TO USE WITH THE DRD-1, WE WILL BE HAPPY TO OFFER YOU SUPPORT FOR CONFIGURING AND ENJOYING YOUR DRD-1, AND AS MUCH SUPPORT AS WE CAN REGARDING HOW TO CONFIGURE VARIOUS PLAYER PROGRAMS TO WORK WITH IT.

IMPORTANT NOTE:

THE USB INPUT ON THE DRD-1 HAS THE SAME CAPABILITIES AS THE USB INPUT ON THE XDA-3. YOU WILL NOT NEED ANY DRIVERS TO PLAY STANDARD PCM FILES ON MODERN COMPUTERS. BOTH CURRENT APPLE AND WINDOWS 10 AND 11 COMPUTERS HAVE INTERNAL DRIVERS. ASIO DRIVERS AND OTHER USB RESOURCES ARE THE SAME FOR THE DRD-1 AND XDA-3.

You can get the latest ASIO / DoP drivers for the DRD-1 from this link:

<https://emotivalounge.proboards.com/thread/61888/current-usb-drivers-drd-1>

DRD-1 Differential Reference DAC

Using The HDMI-ARC Input

The Audio Return Channel (HDMI-ARC) is a feature that is available on virtually all modern TV sets. ARC is also currently available on some modern projectors and will probably be available on more projectors in the near future. It is important that you understand how HDMI-ARC works before using it to connect your DRD-1 to your television set.

Before smart TVs became popular, when a system included a TV or projector and an AVR or preamp/processor, the various sources were connected to the AVR or processor, and the output of the AVR or processor was then connected to an input on the TV. The AVR or processor then intercepted the incoming audio/video signal, extracted the audio portion of the signal, which it then processed and played, and passed the remaining video signal to the display.

However, with modern smart TVs, we often encounter situations where the audio portion of the signal originates in the TV itself. This is the case when you are watching programming that originates with a streaming App running on the TV, or if you have a source device like a gaming console connected directly to the TV, rather than to the AVR or processor. This may be done to minimize latency for gaming or because the source and TV support a resolution or frame rate not supported by the AVR or processor. In these situations HDMI-ARC may be used to route audio from the TV to the AVR or processor.

This connection may also be used to enable you to play high quality digital audio from your TV through your main audio system via the HDMI-ARC input on the DRD-1.

When you use HDMI-ARC, the audio signal travels “backwards” through the HDMI cable that normally carries the video signal from the AVR or processor to the input on the TV. The HDMI-ARC audio signal travels FROM the input on the TV TO the output of the AVR or processor. Therefore, when you use the HDMI-ARC Input on the DRD-1, you will be connecting an HDMI cable from the HDMI-ARC Input on the DRD-1, TO THE HDMI-ARC *INPUT* ON THE TV.

Note: EVEN THOUGH YOU WILL BE USING THE HDMI-ARC CONNECTION ON YOUR TV TO OUTPUT A DIGITAL AUDIO SIGNAL, THAT CONNECTION IS NORMALLY USED AS A VIDEO INPUT ON THE TV, SO IT WILL BE LABELLED ON THE TV AS AN HDMI-CEC/ARC/eARC INPUT.

Note: The HDMI-ARC connection between your TV and the DRD-1 uses an ordinary HDMI cable. This connection does not require a high speed HDMI cable. HOWEVER, BE SURE TO USE AN HDMI CABLE THAT INCLUDES AN ARC CONNECTION, WHICH VIRTUALLY ALL MODERN HDMI CABLES INCLUDE. IF YOU PLAN TO USE A SPECIAL POWERED HDMI CABLE OR OTHER TYPE OF HDMI EXTENDER, BE SURE THAT IT ALSO SUPPORTS ARC. ALSO NOTE THAT, WHILE WE EXPECT HDMI-ARC ON THE DRD-1 TO WORK WITH MOST POWERED CABLES AND EXTENDERS THAT SUPPORT ARC, WE CANNOT PROMISE THAT IT WILL, AND CANNOT PROVIDE SUPPORT IF YOU ARE UNABLE TO GET IT TO WORK.

Note: Once you connect the HDMI-ARC Input on the DRD-1 to your TV it should appear on the list of output devices on your TV. Your TV should automatically detect and use ARC rather than eARC. Your TV should also automatically detect that the DRD-1 is a stereo device and automatically send audio to it in the correct audio format.

DRD-1 Differential Reference DAC

DRD-1 Specifications

Circuit Highlights:

Digital to Analog Conversion: ESS ES9038Q2M SABRE³² Reference DAC

(32 bit Stereo DAC with Hyperstream® II DAC architecture and Time Domain Jitter Eliminator).

Analog Signal Path Active Electronics: OPA1656 and OPA1678

(ultra-low-noise, low-distortion, audio operational amplifiers).

USB Interface: Comtrue CT7601 32 bit 768 kHz USB Audio Bridge

(supports PCM up to 32/768k; DoP up to DoP256; native-DSD up to DSD512).

Topology:

The DRD-1 is a high performance two channel PCM audio DAC, with a variety of digital inputs, including a very high performance USB input, and an HDMI-ARC digital audio input. The USB digital audio input supports sample rates up to 768k, DoP up to DoP256, and Native DSD up to DSD512 with appropriate drivers. The DRD-1 features a fully balanced differential analog signal path, both balanced (XLR) and unbalanced (RCA) outputs, and a fixed output level, for superb audio performance with a wide variety of preamps.

Rated Output:

Balanced (XLR; at 0 dB in): 4.2 VRMS .

Unbalanced (RCA; at 0 dB in): 2.1 VRMS.

Frequency Response and Distortion

Frequency Response: 20 Hz to 20 kHz +/-0.2 dB (44.1k and above sample rates).

Broadband Frequency Response: 5 Hz to 80 kHz +0/-3 dB

Signal to Noise (S/N Ratio): > 120 dB.

Crosstalk: < 100 dB.

THD: < 0.0008%.

IMD: < 0.0025%.

Note: The frequency response with digital input signals at lower sample rates is determined by the sample rate of the incoming digital signal.

Audio Formats and Bit Rates Supported:

- Stereo PCM digital audio via USB at all standard sample rates and bit depths up to 32/768k (no drivers required for Windows, Apple, and most Linux computers).
- Stereo DoP (DSD-over-PCM-over-USB) via USB at DoP64, DoP128, and DoP256 (ASIO driver or support required).
- Native DSD via USB at DSD64, DSD128, DSD256, and DSD512 (ASIO driver and additional software support required).
- Stereo digital audio via S/PDIF (optical and electrical) at all standard sample rates and bit depths up to 24/192k.
- Stereo digital audio via HDMI-ARC (sample rates and bit depths determined by source).

DRD-1 Differential Reference DAC

Connectivity (Inputs):

Coax electrical S/PDIF digital audio input (1).
Toslink optical S/PDIF digital audio input (1).
HDMI-ARC digital audio input (1).
High performance USB digital audio input (1; USB-C).

Connectivity (Outputs):

Main Outputs (balanced, XLR), fixed level (1 stereo pair).
Main Outputs (unbalanced, RCA), fixed level (1 stereo pair).

Trigger:

Trigger Input; Trigger Output (output +12V DC; input 5-12 V AC/DC).

Front Panel Display:

High visibility blue OLED (fully dimmable).

Remote Control:

All metal; full function; included.

Note: The DRD-1 Differential Reference DAC and DRP-1 Differential Reference Preamp use the same remote control - so the same remote control can be used to control both.

Environmental:

Power Requirements: 90 - 250 VAC; 50/60 Hz.
Low Power Standby Consumption: Meets latest international standby low-power requirements.
Power Supply: Internal (detachable IEC power cord; no wall wart).
Weight (unboxed): 5 pounds.
Dimensions: 10-1/2 "W x 10-1/4"D x 2-1/4"H (unboxed; including feet)

DRP-1 Differential Reference Preamplifier

DRP-1 Differential Reference Preamplifier

The Emotiva DRP-1 Differential Reference Preamplifier is an audiophile quality two channel analog preamplifier designed specifically with the audio purist in mind. The DRP-1 combines all of the features you need for a truly superb analog listening experience, with the convenience of digital control, and a compact size and attractive appearance that make it right at home in any high quality two channel audio system.

Inside, where it counts, the DRP-1 features a fully balanced signal path, a digitally controlled analog ladder network volume control, and relay switching for inputs and all critical signal paths. High quality internal components, including Texas Instruments Burr Brown premium op-amps, specifically chosen for their incredibly low noise and distortion, are used throughout the signal path. Highly optimized circuit layout, and careful manufacturing and quality control, ensure that your pristine analog audio signal is handled with the utmost care at every step of its journey through the DRP-1.

The precision phono preamp inside the DRP-1 delivers exceptional sound quality, and incredibly accurate RIAA equalization, with both Moving Magnet (MM) and Moving Coil (MC) cartridges. For those who wish to add a subwoofer, the DRP-1 includes a switchable internal analog bass management system, which includes both active low-pass and high-pass filters. Both balanced (XLR) and unbalanced (RCA) inputs and outputs are included for perfect compatibility with the widest variety of analog source components and power amplifiers.

Outside, the DRP-1 features an all-metal chassis, with a heavy machined solid aluminum front panel, and an easy to read blue OLED display. The front panel also features an actual Volume Control knob, connected to a precision digital encoder, which controls the internal digitally controlled analog ladder network, and delivers both precise control and near perfect channel tracking at all levels, and can also be used to navigate the Menu system. And, for those who prefer to do so, the front panel display can be dimmed in several discrete steps, the lowest of which turns the display entirely off. When it's fully dimmed the display still illuminates briefly to acknowledge when you change settings and when you navigate the Menu. The DRP-1 also includes a solid metal remote control that is compact yet comfortable to hold. The remote control can be used to turn the unit On and Off, to change Volume or Inputs, and to access and navigate the Menu.

We believe the Emotiva DRP-1 Differential Reference Stereo Preamplifier is very nearly the perfect analog preamp... and we think you'll agree.

DRP-1 Differential Reference Preamplifier

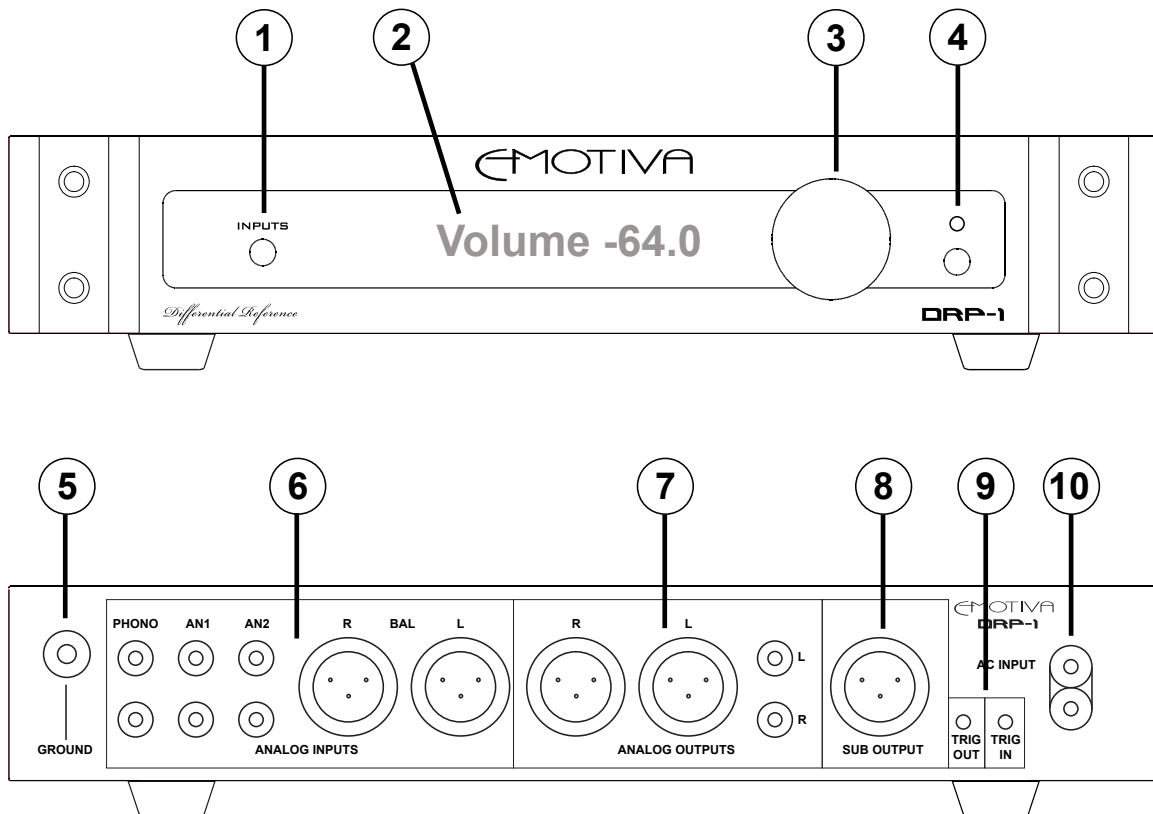
DRP-1 Differential Reference Preamp Feature Highlights

- Excellent technical performance and superb audiophile sound quality.
- Both balanced (XLR) and unbalanced (RCA) inputs and outputs.
- Fully analog fully balanced audio signal path.
- Carefully designed power supply and analog signal path circuitry for exceptionally low noise and incredibly low distortion.
- Relay switching for all inputs and critical circuit paths.
- Precision digitally controlled analog ladder network Volume control for precise level control and virtually perfect channel tracking at all levels.
- Super-premium Texas Instruments / Burr Brown op amps used throughout the signal path.
- An actual front panel Volume Control knob.
- High-performance phono preamp, with incredibly tight RIAA accuracy, which supports both Moving Magnet (MM) and Moving Coil (MC) cartridges.
- Subwoofer output with built in, switchable, precision, active low-pass and high-pass bass management filters.
- Balance control.
- Compact full featured all-metal remote control.
- All metal construction including a solid metal chassis and a machined aluminum front panel.
- Bright easy-to-read OLED front panel display (which can be fully dimmed).
- All feature options accessible from a simple yet concise menu system.
- Trigger Input and Trigger Output.
- Universal line voltage operation and low Standby power consumption.

You can find more information about the DRP-1 Differential Reference Stereo preamp on our website at www.emotiva.com.

DRP-1 Differential Reference Preamplifier

DRP-1 Differential Reference Preamplifier



1. Input Select Button

This button cycles through the Inputs on the DRP-1.

2. Front Panel OLED Display

This display normally shows the current Volume setting on the DRP-1. It switches to briefly show the Input you select when you change Inputs, and shows additional information when you navigate the Menu.

Note: The brightness of the Front Panel Display can be adjusted using the Dim function on the Menu or the Remote Control.

3. Volume Knob

This knob is connected to a precision digital encoder and is normally used to manually control the Volume on the DRP-1. In addition to this:

Pressing the knob momentarily while the DRP-1 is playing will Mute the DRP-1.

Pressing the knob momentarily when the DRP-1 is muted will Unmute the DRP-1.

Pressing and holding the knob for a few seconds will enter the Menu.

DRP-1 Differential Reference Preamplifier

4. Standby Button and Indicator LED

Pressing this button when the DRP-1 is in Standby will turn the DRP-1 On.
Pressing the button when the DRP-1 is On will set the DRP-1 to Standby.
The Standby Indicator LED will be illuminated Amber when the DRP-1 is in Standby mode.
The Standby Indicator LED will NOT be illuminated when the DRP-1 is On.

Note: The DRP-1 does not have a rear panel power switch. The DRP-1 uses very little power in Standby mode and should normally remain in Standby mode when not in use.

5. Ground Lug

The ground lug is normally used to provide a ground connection for turntables that have a separate ground lead. However it may also be used to provide a separate ground connection to the DRP-1 in some situations to avoid or eliminate ground hum issues.

Note: Some turntables include a separate ground lead which is intended to be connected to a ground lug on the preamp. Others are grounded only via one of the main audio interconnects and do not require or benefit from a separate ground connection.

6. Balanced and Unbalanced Analog Inputs

The DRP-1 offers a variety of analog inputs.
The Phono input is for either Moving Magnet (MM) or Moving Coil (MC) phono cartridges.
AN1 and AN2 are line level stereo unbalanced analog inputs (RCA).
BAL is a line level stereo balanced input (XLR).

Note: The Phono input is intended to accept an input directly from a Moving Coil or Moving Magnet phono cartridge. You will need to set the DRP-1 in the Menu for the appropriate type of cartridge you have. If your turntable has a built in phono preamp, and a line level analog output, then that output should NOT be connected to the Phono input; it should be connected to one of the line level analog inputs instead.

Note: The DRP-1 is a pure analog preamp. If your turntable includes an internal digital converter, and offers a USB or other digital output, that output CANNOT be connected directly to the DRP-1.

7. Balanced and Unbalanced Analog Outputs

The DRP-1 offers both stereo unbalanced (RCA) and stereo balanced (XLR) outputs. Both sets of outputs are active at the same time and output audio at the same level - as set by the Volume control.

8. Balanced Subwoofer Output

The DRP-1 also offers a summed balanced (XLR) output that is normally used to connect a subwoofer. (See the following note for more details about how to configure this output.)

DRP-1 Differential Reference Preamplifier

Note:

The DRP-1 includes internal relay-switched analog Low Pass and High Pass Bass Management filters which can be independently enabled and disabled from the Menu.

When the DRP-1 is to be used as a normal STEREO preamp, the High Pass Filter should be OFF, which will configure the DRP-1 to deliver a full range audio signal from its main outputs. The setting of the Low Pass Filter won't matter since the Sub Output will not be used.

There are two options which may be selected if you are using the DRP-1 with a subwoofer.

If you prefer to have the DRP-1 handle all of the Bass Management, then the High Pass Filter and the Low Pass Filter should BOTH be enabled. In this mode, all of the content from each channel above 80 Hz will be routed to that channel's main outputs by the High Pass Filter, and all of the content from both channels below 80 Hz will be summed, and routed to the Sub Output. In this mode the filter controls on your sub should be bypassed - either set to "LFE" or "bypass" or to their highest frequency setting.

If you prefer to use the crossover controls on your subwoofer to control how it blends with your main speakers, then the High Pass Filter on the DRP-1 should be enabled, but the Low Pass Filter on the DRP-1 should be DISABLED. In this configuration, all of the content from each channel above 80 Hz will be routed to that channel's main outputs by the High Pass Filter, but the Sub Output will receive a SUMMED FULL RANGE signal, which you can then blend with the main output using the controls on your sub.

A third and final option is to use the Sub Output on the DRP-1 to supply a full range center channel speaker. When the Low Pass Filter on the DRP-1 is NOT enabled the Sub Output carries a full range summed left + right signal which would be appropriate for routing to a center channel. (While this is not technically a true center channel, it is equivalent to the center channel signal often employed in "three channel systems" before true surround sound was available, and can sound pleasing when routed to a third center amplifier and speaker.)

9. Trigger Input and Trigger Output

The DRP-1 will turn On from Standby when a nominal 12VDC signal is received from another device at its Trigger Input. The DRP-1 will remain On as long as this trigger signal is present. When the DRP-1 is On a nominal 12VDC signal will be provided by its Trigger Output which can be used to turn on other trigger-enabled devices.

10. Power Cord Receptacle

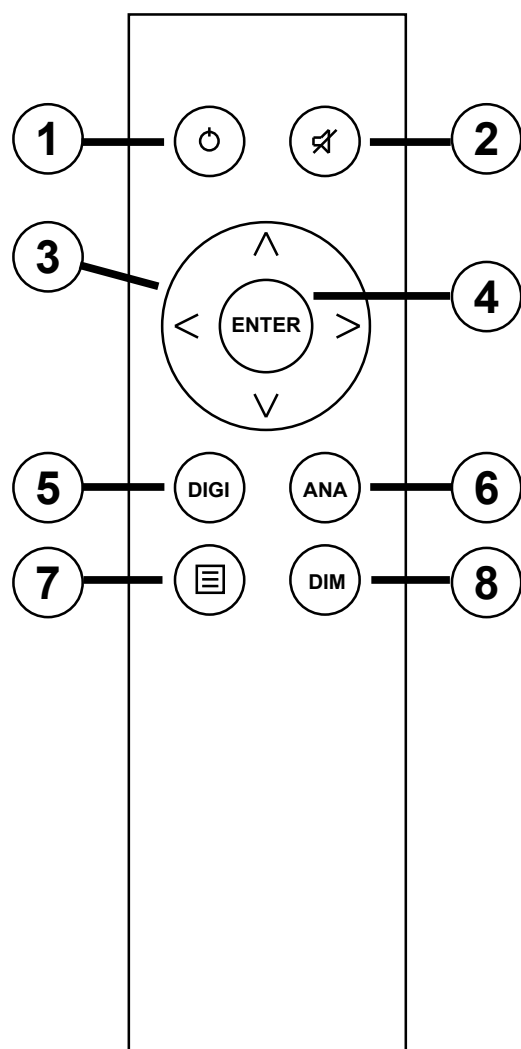
The DRP-1 can be powered by any receptacle that provides between 90 VAC and 250 VAC at 50 or 60 Hz, and will automatically detect and adjust itself to the correct voltage for your area.

We provide a high quality commercial power cable with the DRP-1. However the AC power cable can be replaced if desired with any high quality third party power cable that is terminated with the appropriate IEC connector.

DRP-1 Differential Reference Preamplifier

DRP-1 Remote Control (use with DRP-1)

The same compact full-featured all metal remote control is included with both the DRD-1 Differential Reference DAC and the DRP-1 Differential Reference Preamp. If you are using both a DRD-1 and a DRP-1 in the same system, some buttons on your remote control will affect the operation of both units, but others are unique to one unit or the other. This section only describes the function of buttons that apply to the DRP-1.



1. Power / Standby Button

Pressing this button toggles the DRP-1 between Standby and On. (Remember that the Standby LED on the front panel of the DRP-1 is illuminated when the DRP-1 is in Standby and is NOT illuminated when the unit is On.)

2. Mute Button

Pressing this button toggles Mute On and Off. When Mute is On the front panel display will display "Mute" rather than the current Volume setting.

3. & 4. - Navigation Ring and Enter Button

When you aren't in the Menu, the Up and Down Arrows on the Navigation Ring raise and lower the Volume and the Left and Right Arrows change Inputs. When you're in the Menu, the four Arrow Keys, and the Enter Button, are used for Menu navigation.

5. Digital Input Select Button

The remote control we supply with DRP-1 controls both the DRP-1 Differential Reference Preamp and our DRD-1 Differential Reference DAC. This button is used to change digital inputs on the DRD-1 DAC.

6. Analog Input Select Button

Pressing this button cycles through the available Inputs on the DRP-1.

7. Menu Button

Pressing this button takes you into and out of the Menu on the DRP-1.

(You can also get into the Menu by pressing and holding the front panel Volume knob.)

DRP-1 Differential Reference Preamplifier

8. Dim Button

Pressing the Dim Button repeatedly cycles through the brightness settings for the Front Panel OLED Display and for the illuminated legend for the Input Select Button. If you select DIM OFF the main display will be entirely dark; although it will light briefly to indicate when you change Volume or Inputs. After that, DIM 1 is the least bright and DIM 5 is the brightest.

Note: If you select the DIM OFF setting, the Standby LED will be lit amber when the DRP-1 is in Standby mode, but NOTHING WILL BE ILLUMINATED WHEN THE UNIT IS ON AND RUNNING, except briefly when you press a button or turn the Volume knob.

DRP-1 Differential Reference Preamplifier

DRP-1 Menu System

The DRP-1 includes a Menu system, which is used to access or change several configuration settings, and which can be accessed using the front panel Volume Knob or the remote control.

When operating the Menu using the remote control:

- ENTER the Menu by pressing the Menu Button
- NAVIGATE and change settings using the four Arrow Buttons on the Navigation Ring
- EXIT the Menu by pressing the Left Arrow again or pressing the Menu Button again

When operating the Menu using the front panel controls:

- ENTER the Menu by pressing and holding the Volume Knob
- ROTATE the Volume Knob to move to a different item or change the value of a setting
- PRESS the Volume knob briefly to move "further in or out" in the Menu (there are only two levels inside the Menu so this toggles between them)
- EXIT the Menu by pressing the Input Button (or wait for the timeout)

Note: *Once you change the value of a Menu item that change has been "made". There is no need to press the Enter button to save changes after a value has been changed.*

HERE ARE THE CONFIGURATION OPTIONS AVAILABLE VIA THE MENU:

Version - DRP-1 V1.0

- displays the current version of firmware installed on your the DRP-1.

LPF - LPF Off, LPF On

- enables or disables the bass management low-pass filter ON THE SUB OUTPUT.

HPF - HPF Off, HPF On

- enabled or disables the bass management high-pass filter ON THE MAIN OUTPUTS.

Cart. Select - Phono MM, Phono MC

- configures whether you have a Moving Magnet (MM) or Moving Coil (MC) phono cartridge.

Balance - Bal L01 thru Bal L10, Bal 00, Bal R01 thru Bal R10

- Bal 00 is the default and is equally balanced between left and right.
- Balance settings shift the sound stage while maintaining the overall level.
(if you choose R03 the right channel is boosted and the left channel is cut the same amount)

DIM - Dim Off, Dim 1 thru Dim 5

- selects the brightness setting for the front panel display and illumination.
- Dim 5 is brightest.
- with Dim OFF the display will ONLY light briefly with Input or Volume changes or when you are using the Menu.

RESET - Reset?

- resets all configuration options to their default values.
- Reset? is a confirmation; press Right or Enter to RESET or press Left to cancel the reset command.

DRP-1 Differential Reference Preamplifier

DRP-1 Specifications

Connectivity (Inputs):

Stereo unbalanced line level inputs (RCA): two pairs.

Stereo unbalanced PHONO input (MM or MC): one pair.

Stereo balanced line level inputs (XLR): one pair.

Connectivity (Outputs):

Stereo unbalanced line level outputs (RCA): one pair.

Stereo balanced line level outputs (XLR): one pair.

Summed balanced subwoofer output (XLR): one.

Analog Audio Specifications:

Frequency Response (line level): 20 Hz to 20 kHz +/- 0.05 dB .

Frequency Response (phono; ref RIAA): 20 Hz to 20 kHz +/- 0.2 dB .

Broadband Frequency Response: 10 Hz to greater than 80 kHz +0 dB/-3 dB .

Signal to Noise Ratio (ref rated output; line level): > 118 dB .

Gain (phono; Moving Magnet cartridge): > 40 dB .

Signal to Noise Ratio (phono; ref 6 mV; Moving Magnet cartridge): > 83 dB .

Gain (phono; Moving Coil cartridge): > 60 dB .

Signal to Noise Ratio (phono; ref 2 mV; Moving Coil cartridge): > 73 dB .

THD+N (20 Hz to 20 kHz): <0.000715% .

Crosstalk: < 90 dB .

Rated Output Voltage (unbalanced outputs): 2 VRMS .

Rated Output Voltage (balanced outputs): 4 VRMS .

Maximum Output Voltage: 9 VRMS .

Input Voltage Overload: 4 VRMS .

Bass Management (switchable Low-Pass filter): 80 Hz; 12 dB/octave; fixed frequency.

Bass Management (switchable High-Pass filter): 80 Hz; 12 dB/octave; fixed frequency.

Trigger:

Trigger Input; Trigger Output (output +12V DC; input 5-12 V AC/DC).

Front Panel Display:

High visibility blue OLED (fully dimmable).

Remote Control:

All metal; full function; included.

Note: The DRD-1 Differential Reference DAC and DRP-1 Differential Reference Preamp use the same remote control - so the same remote control can be used to control both.

DRP-1 Differential Reference Preamplifier

Environmental:

Power Requirements: 90 - 250 VAC; 50/60 Hz.

Low Power Standby Consumption: Meets latest international standby low-power requirements.

Power Supply: Internal (detachable IEC power cord; no wall wart).

Weight (unboxed): 5 pounds.

Dimensions: 10-1/2 "W x 10-1/4"D x 2-1/4"H (unboxed; including feet)

Dimensions: 10-1/2 "W x 10-1/4"D x 2-1/4"H (unboxed; including feet)

DRA-1 Differential Reference Amplifier

DRA-1 Differential Reference Amplifier

The DRA-1 Differential Reference Amplifier is a compact, powerful, great sounding two-channel power amplifier built around the latest Hypex nCore NCx252MP Class-D amplifier module.

The DRA-1 represents the cutting edge in modern efficient amplifier technology. The DRA-1 offers both balanced (XLR) and unbalanced (RCA) analog audio inputs for compatibility with virtually any preamp or DAC that includes a volume control. The DRA-1 is the perfect companion for the other components in our Differential Reference Design Series, delivering 100 watts/channel into 8 Ohms, or 175 watts/channel into 4 Ohms, with vanishingly low noise and distortion, from a compact cool-running package. And, if you need even more power, the DRA-1 can be switched to offer a single bridged mono channel, delivering 365 watts into 8 Ohms, or 400 watts into 4 Ohms.

Because of its compact form factor and exceptional efficiency, finding a good location for your DRA-1 Differential Reference Amplifier, or even for a pair of them, is simple. In fact, the DRA-1 runs so cool that you can actually put it at the bottom of your stack, below your other Differential Reference Design Series components.

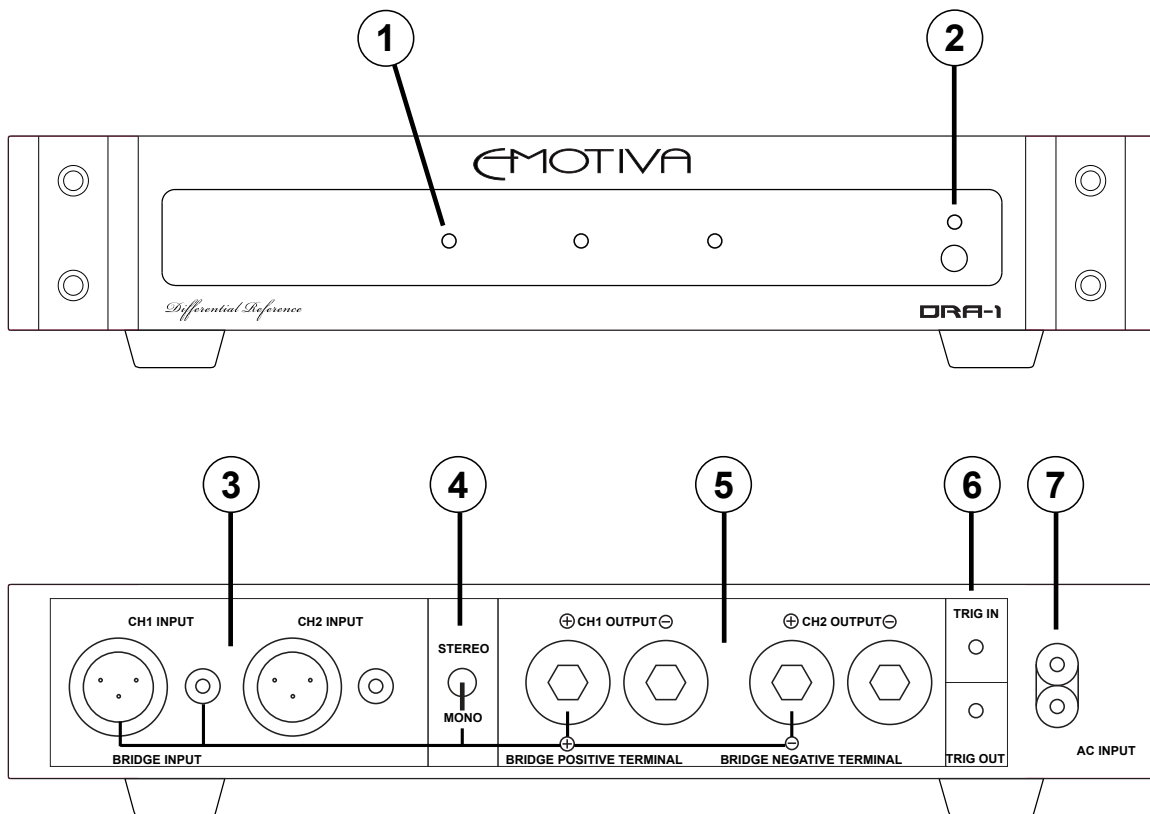
DRA-1 Differential Reference Amplifier

DRA-1 Differential Reference Amplifier Feature Highlights

- Audiophile quality two-channel power amplifier featuring the latest Hypex nCore NCx252MP Class-D amplifier module.
- Excellent technical performance and, more importantly, superb audiophile sound quality.
- Both balanced (XLR) and unbalanced (RCA) inputs and outputs.
- Plenty of power in an impressively small footprint.
- Full sized five way binding posts for speaker connections accept banana plugs, spade lugs, or bare wires.
- Stable into all normal speaker loads.
- Fast acting internal protection circuitry protects against common user errors.
- Bridgeable into a single very high powered channel.
(If you need more power simply add a second DRA-1 and bridge them.)
- Compact efficient design takes up very little space and requires minimal ventilation.
(The DRA-1 stacks comfortably below your other Differential Reference Series gear.)
- A perfect match for your other Differential Reference Series gear.

DRA-1 Differential Reference Amplifier

DRA-1 Differential Reference Amplifier



1. Status LEDs

When the DRA-1 is ON the Status LED for each channel will be illuminated BLUE.

2. Standby Button and Indicator LED

Pressing this button when the DRA-1 is in Standby will turn the DRA-1 On.

Pressing the button when the DRA-1 is On will set the DRA-1 to Standby.

The Standby Indicator LED will be illuminated Amber when the DRA-1 is in Standby mode.

The Standby Indicator LED will NOT be illuminated when the DRA-1 is On.

Note: The DRA-1 does not have a rear panel power switch. The DRA-1 uses very little power in Standby mode and should normally remain in Standby mode when not in use.

3. Balanced (XLR) and Unbalanced (RCA) Analog Inputs

Use either of these connections to connect your preamplifier to the DRA-1.

Note: Channel 1 Inputs are used when the DRA-1 is operated in Bridged Mono Mode.

Note: To ensure best performance when using the Unbalanced (RCA) inputs shorting jumpers should be inserted into the appropriate pins on the Balanced (XLR) connectors.

DRA-1 Differential Reference Amplifier

4. Stereo/Mono Bridging Switch

This switch selects between Stereo mode and Mono (Bridged) mode.

Note: When the DRA-1 is in Stereo mode both the Channel 1 and Channel 2 Inputs are used as shown. When the DRA-1 is operated in Mono Bridged Mode the Channel 1 Inputs are used.

Note: When the DRA-1 is used in Stereo mode the two speakers are connected to the two pairs of red and black five-way binding posts as shown. When the DRA-1 is used in Mono Bridged mode the single speaker is connected between the two RED binding posts. SEE THE LABELS ON THE REAR PANEL AND THE ILLUSTRATION THAT FOLLOWS FOR DETAILS OF HOW TO CONFIGURE INPUTS AND SPEAKER CONNECTIONS IN BOTH MODES.

5. Speaker Output Connections

Use these five-way binding posts to connect either a pair of speakers (Stereo mode) or a single speaker (Mono mode) to the DRA-1 using banana plugs, bare wire, or spade lugs.

Note: When the DRA-1 is used in Stereo mode the two speakers are connected to the two pairs of red and black five-way binding posts as shown. When the DRA-1 is used in Mono Bridged mode the single speaker is connected between the two RED binding posts. SEE THE LABELS ON THE REAR PANEL AND THE ILLUSTRATION THAT FOLLOWS FOR DETAILS OF HOW TO CONFIGURE INPUTS AND SPEAKER CONNECTIONS IN BOTH MODES.

6. Trigger Input and Trigger Output

The DRA-1 will turn On from Standby when a nominal 12VDC signal is received from another device at its Trigger Input. The DRA-1 will remain On as long as this trigger signal is present. When the DRA-1 is On a nominal 12VDC signal will be provided by its Trigger Output which can be used to turn on other trigger-enabled devices.

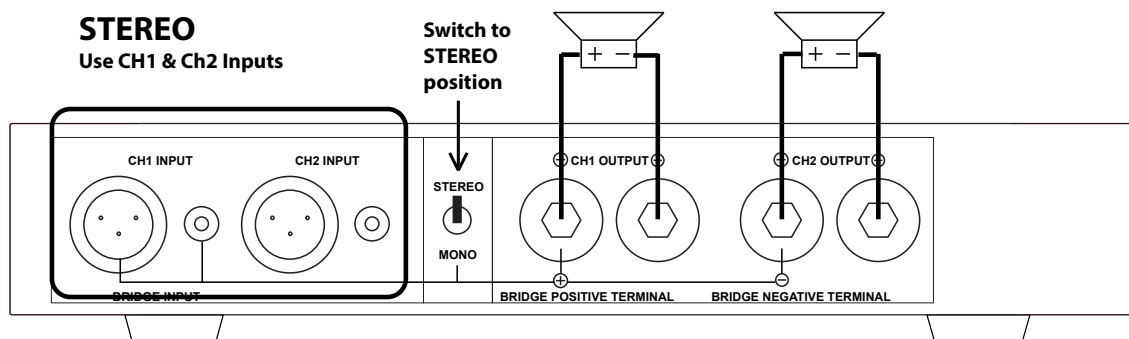
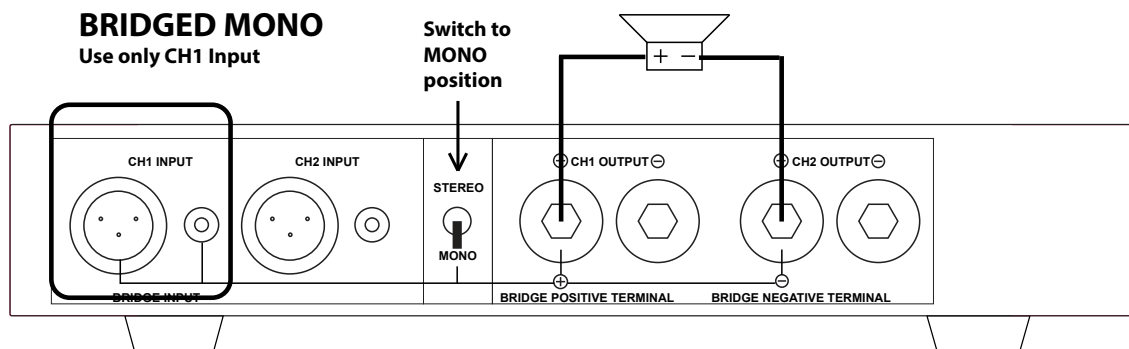
7. Power Cord Receptacle

The DRA-1 can be powered by any receptacle that provides between 90 VAC and 250 VAC at 50 or 60 Hz, and will automatically detect and adjust itself to the correct voltage for your area.

We provide a high quality commercial power cable with the DRA-1. However the AC power cable can be replaced if desired with any high quality third party power cable that is terminated with the appropriate IEC connector.

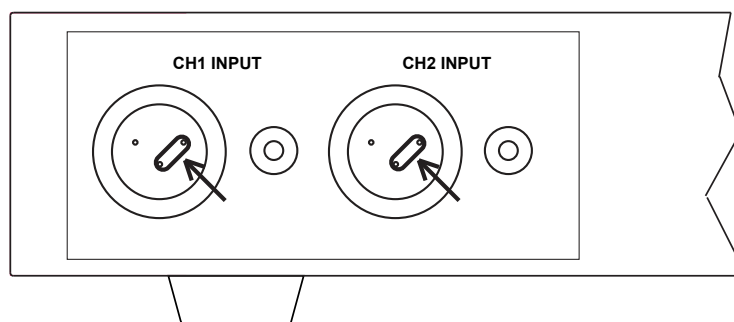
DRA-1 Differential Reference Amplifier

Stereo and Mono Mode Input and Speaker Connections



Grounding Jumpers for use with Unbalanced (RCA) Inputs

For best noise performance insert grounding jumpers into XLR connectors on rear of DRA-1 as shown when using Unbalanced (RCA) inputs



DRA-1 Differential Reference Amplifier

DRA-1 Specifications

Connectivity:

Stereo Mode:

Unbalanced line level inputs (RCA): one per channel.

Balanced line level inputs (XLR): one per channel.

Audiophile grade five-way speaker binding posts: one pair per channel.

Bridged Mono Mode:

Unbalanced line level inputs (RCA): one.

Balanced line level inputs (XLR): one.

Audiophile grade five-way speaker binding posts: one pair.

Trigger Input and Trigger Output (nominal 12V; 3.5mm connector): one each.

Analog Audio Specifications:

Power Output (Stereo Mode; one channel driven):

100 Watts RMS; 20 Hz - 20 kHz; THD < 0.02% into 8 Ohms

175 Watts RMS; 20 Hz - 20 kHz; THD < 0.05% into 4 Ohms

Power Output (Stereo Mode; two channels driven):

90 Watts RMS/channel; 20 Hz - 20 kHz; THD < 0.02% into 8 Ohms

130 Watts RMS/channel; 20 Hz - 20 kHz; THD < 0.05% into 4 Ohms

Power Output (Mono Bridged Mode; one channel):

365 Watts RMS; 20 Hz - 20 kHz; THD < 0.1% into 8 Ohms

400 Watts RMS; 20 Hz - 20 kHz; THD < 0.1% into 4 Ohms

Power Bandwidth (at rated power; 8 Ohms): 20 Hz to 20 kHz +/- 0.7 dB .

Broadband Frequency Response: 5 Hz to greater than 80 kHz +0 dB/-5 dB .

THD+N (1 kHz; 100 watts; 8 Ohms): < 0.008% .

Signal to Noise Ratio (ref rated output; 8 Ohms): > 115 dB .

Signal to Noise Ratio (ref 1 watt output; 8 Ohms): > 94 dB .

Environmental:

Power Requirements:

Operating Line Voltage: 90 - 250 VAC; 50/60 Hz.

Low Power Standby Consumption: Meets latest international standby low-power requirements.

Power Supply: Internal (detachable IEC power cord; no wall wart).

Weight (unboxed): 5 pounds.

Dimensions: 10-1/2 "W x 10-1/4 "D x 2-1/4 "H (unboxed; including feet)

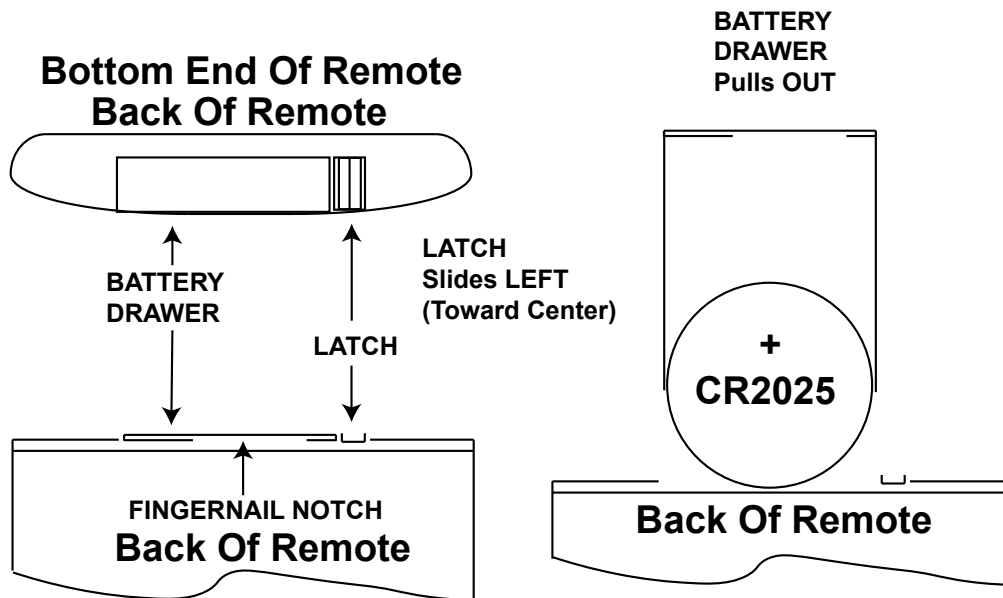
Differential Reference Design Series Components

Changing The Battery In The Remote Control

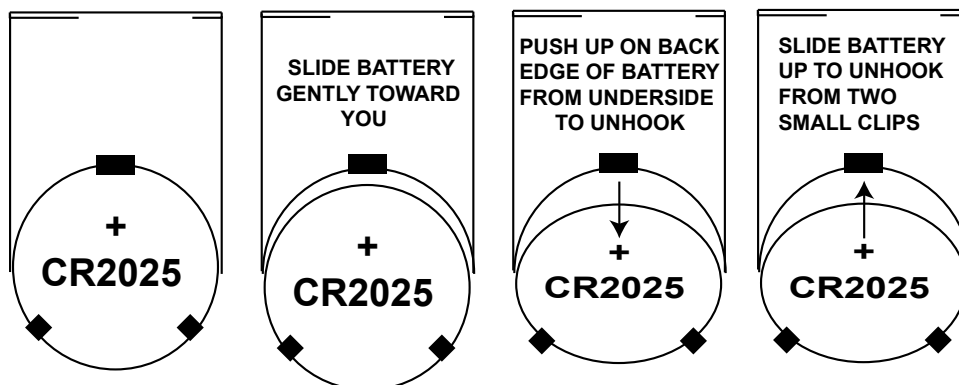
The remote control used by the DRD-1 Differential Reference Preamp and the DRD-1 Differential Reference DAC uses a CR2025 type lithium “button cell”. When you need to replace this battery, replace it with one of the same type, and observe the direction of the original battery and the battery drawer, to facilitate inserting the new battery and reinserting the drawer in the remote control.

To remove the battery drawer, gently pull the battery drawer out of the end of the remote control WHILE APPLYING PRESSURE ON THE LATCH TAB TOWARD THE CENTER OF THE DRAWER. The latch tab only moves a short distance but will release the latch which holds the drawer in place.

After replacing the battery in the battery drawer, simply reinsert the drawer in the remote control, being careful to insert it in the proper direction, and press it gently in until it clicks.



Battery Drawer (Back Side)



Differential Reference Design Series Components

Care and Maintenance

Periodic Maintenance

Your Differential Reference Series component requires no periodic maintenance or calibration.

Cleaning your Differential Reference Component

- If necessary, the Differential Reference Series component should be cleaned gently with a soft rag.
- If something sticky gets on the front panel or case of the Differential Reference Series component, it should be cleaned with a mild cleaning solution applied to a soft rag, followed by wiping with a clean rag dampened with plain water and drying with a soft dry rag or cloth.

Note: DO NOT spray water or cleaning solution directly onto the Differential Reference component.

Differential Reference Design Series Components

Emotiva Audio Corporation Five-Year Limited Warranty

What does this warranty cover?

Emotiva Audio Corporation (Emotiva) warrants its products against defects in materials and workmanship. This warranty, and all rights provided hereunder, is granted to the original owner, and may be transferred by the current owner to a new owner if the unit is gifted or sold. In the event the original owner transfers ownership of the Product prior to the expiration of the applicable term described below, this Warranty shall terminate at the end of the original term.

This Warranty only applies to Products purchased directly from Emotiva or any of its Authorized Dealers or International Distributors.

Emotiva warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in this paragraph is hereinafter referred to as the “Term”.

TO THE FULLEST EXTENT PERMITTED BY LAW, ALL IMPLIED WARRANTIES RELATED TO THE ORIGINAL PRODUCT AND ANY REPLACEMENT PRODUCT OR PARTS (INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE) ARE EXPRESSLY LIMITED TO THE TERM OF THIS LIMITED WARRANTY. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE LIMITATION MAY NOT APPLY TO YOU.

The original owner must make a claim within the Term of the Warranty. A claim shall not be valid (and Emotiva has no obligation related to the claim) if it is not made within the Term and if it is not made in strict compliance with the requirements of the “How do you get service?” section.

How long does this coverage last?

The warranty on the Emotiva Differential Reference component commences on the date of retail purchase by the original retail purchaser and runs for a period of five years thereafter. This warranty may be transferred by the current owner to a new owner at any time during the original term. Emotiva warrants any replacement product or part furnished hereunder against defects in materials and workmanship for the longer of the following: (i) the amount of time remaining under the original warranty, or (ii) 120 days from your receipt of the repaired or replaced product. The duration described in this paragraph is hereinafter referred to as the “Term”.

What will Emotiva do?

Emotiva will, at its option, either: (i) repair the product, or (ii) replace the product with a new consumer product which is identical or reasonably equivalent (in Warrantor’s sole discretion) to the product. In the event Warrantor, in its sole discretion, is unable to replace or repair the Product or it is not commercially practicable to do so, then: (i) if the claim was submitted during the first 365 days of the Term, Warrantor shall refund to you the purchase price that you paid for the Product; and (ii) if the claim was submitted after the first 365 days of the Term, Emotiva shall issue you a credit equal to the purchase price that you paid for the product. The credit may only be used for the purchase of merchandise from Emotiva, and cannot be used for freight charges.

Differential Reference Design Series Components

When a Product or part is repaired or replaced, any replacement item becomes your property and the replaced item becomes Emotiva's property. When a refund or credit is given, the Product for which the refund or credit is provided must be returned to Emotiva and becomes Emotiva's property.

What is not covered by this warranty?

This warranty does not apply: (i) to damage caused by use with products not manufactured by Emotiva, where the non-Emotiva product is the cause of the damage; (ii) to damage caused by service or maintenance performed by anyone who is not a representative of Emotiva; (iii) to damage caused by accident, abuse, misuse, flood, fire, earthquake or other external causes; (iv) to a product or part that has been modified after its retail purchase, where the modification caused or contributed to the damage; (v) to consumable parts, such as batteries or failure of or damage to the Product caused by batteries; (vi) if any Emotiva serial number has been removed or defaced on the product; (vii) glass or plastic panels, cabinetry, trim or other appearance items; (viii) cosmetic wear or damage to remote controls by user.

EMOTIVA SHALL NOT BE LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM OR RELATED TO ANY DEFECTS IN OR DAMAGES TO ITS PRODUCTS. SOME STATES DO NOT ALLOW THE EXCLUSION OR LIMITATION OF INCIDENTAL OR CONSEQUENTIAL DAMAGES, SO THE ABOVE LIMITATION OR EXCLUSION MAY NOT APPLY TO YOU.

How do you get service?

In order to make a claim under the Warranty, you must:

1. Call or e-mail a customer service representative at 1-615-790-6754 or support@emotiva.com . You must provide a description of your problem, the serial number of the Product for which the warranty claim is being made, and the original purchase date.
2. Then, you will be provided with a warranty service authorization number ("WS").
3. Next, you must ship the Product to the following address, with the WS written in large, bold numbers on the outside of the box, and with the letters "WS" written before the number, for example: WS1234. Parcels arriving without a WS number on the outside of the box will be refused. The customer pays for the shipping to Warrantor. Warrantor pays for the shipping back to the customer within the continental United States only. Customer is responsible for shipping charges on all other warranty claims.

**Emotiva Audio Corporation
Attn: Repair Department
139 Southeast Parkway Court
Franklin, TN 37064**

Units will be refused by Emotiva for the following:

- Product was sent without the WS#
- Product was sent with inadequate packaging.
- Product was damaged in transit.
- Product was shipped collect for shipping charges.

Differential Reference Design Series Components

How does state law apply?

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

What if my product is damaged on the way to you?

Emotiva is not liable for damages that may incur while an item is in transport to us. Please purchase insurance when you ship your item. If your Product was not adequately packaged, we will refuse receipt and the damaged package will be returned to you at your cost. If you do not have the original Emotiva Audio packaging, please check with our sales department to purchase replacement-shipping cartons.

How does the Warranty and service apply to international orders?

The Product Warranty is only valid in the country where the Emotiva product was originally shipped via an authorized dealer, distributor, or direct from the Emotiva factory. The Warranty is subject to change at any time depending on the laws and regulations within your specific country. Please check with your distributor for a complete understanding of the warranty in your country.

If you purchased your Emotiva Product outside of the USA and wish to have it serviced at the factory, all freight charges are your responsibility. If you do not have an authorized distributor or repair center in your country, your Product must come back to the Emotiva USA factory for warranty service.

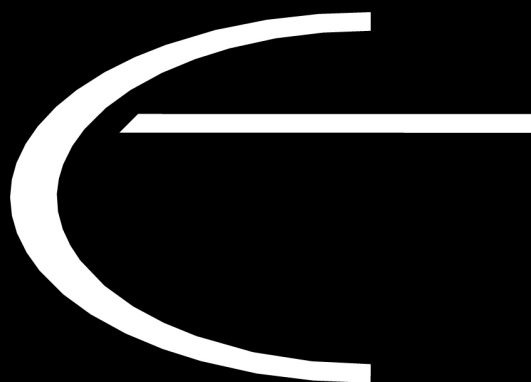
Differential Reference Design Series Components

Notes

All information contained in this manual is accurate to the best of our knowledge at the time of publication. In keeping with our policy of ongoing product improvement, we reserve the right to make changes to the design and features of our products without prior notice.

All trademarks are the property of their respective owners.

Emotiva Differential Reference Series Components Owner's Manual v 1.2 January 2026



Emotiva Audio Corporation
135 Southeast Parkway Court
Franklin, TN 37064

www.emotiva.com