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DMS-3.1

Digital Media Streamer

Installation Manual

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Introduction

Russound's DMS-3.1 is a digital media streaming device that is capable of playing digital audio content from various sources. Streaming refers to the delivery method of the content rather than to the content itself. Based on the installation method, the DMS-3.1 can play a wide variety of content for your listening pleasure. Software upgradable, your DMS-3.1 will support new features as they become available.

The DMS-3.1 has three separate streaming media players with corresponding analog audio outputs that can feed multiple amplifiers. This allows independent content selection by different rooms simultaneously.

Another benefit is that each streamer can have different account credentials if desired. This allows streamer 1 to access one user's accounts and favorite stations, while streamers 2 and 3 can do the same for other users in the home. No one has to share their stations and favorites with anyone else in the home if they don't want to do so.

The DMS-3.1 is also an AirPlay accessory that can stream audio content from AirPlay-enabled sources such as an Apple iPod touch, iPhone, or iPad that is running iOS 4.2 or greater. In addition, computers running iTunes® 10 or newer can stream content via AirPlay to the DMS-3.1. AirPlay will have priority and override any selected source of audio content currently playing on any of the three streaming outputs.

The DMS-3.1 is connected to the Local Area Network in a home via a hardwired Ethernet connection for access to digital audio content. If used with an MCA-Series controller and a supported user interface, the DMS-3.1 can access and playback digital audio files from LAN connected DLNA / UPnP media servers. Additionally, if connected to the internet and used with an MCA-Series controller and supported user interface, the DMS-3.1 can stream content from multiple services, including Pandora®, Spotify®, SiriusXM®, TuneIn® Radio and vTuner® Radio.

Note: Some of the services may require paid subscription accounts.

A built-in AM/FM tuner with RDS feedback adds local radio as a listening choice, and USB ports accept connections from USB storage devices using FAT16 and FAT32 file formats for audio content playback if used with an MCA-Series controller and a supported user interface.

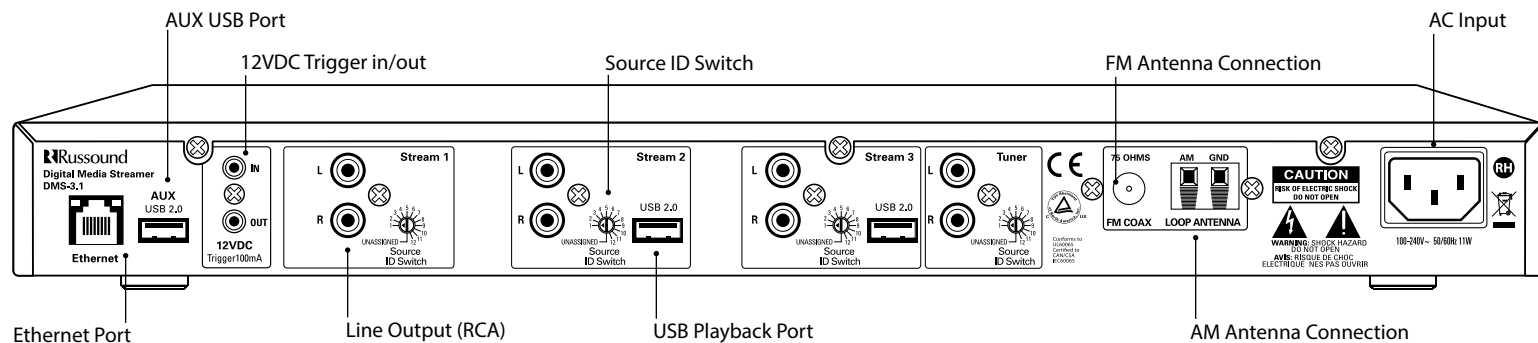
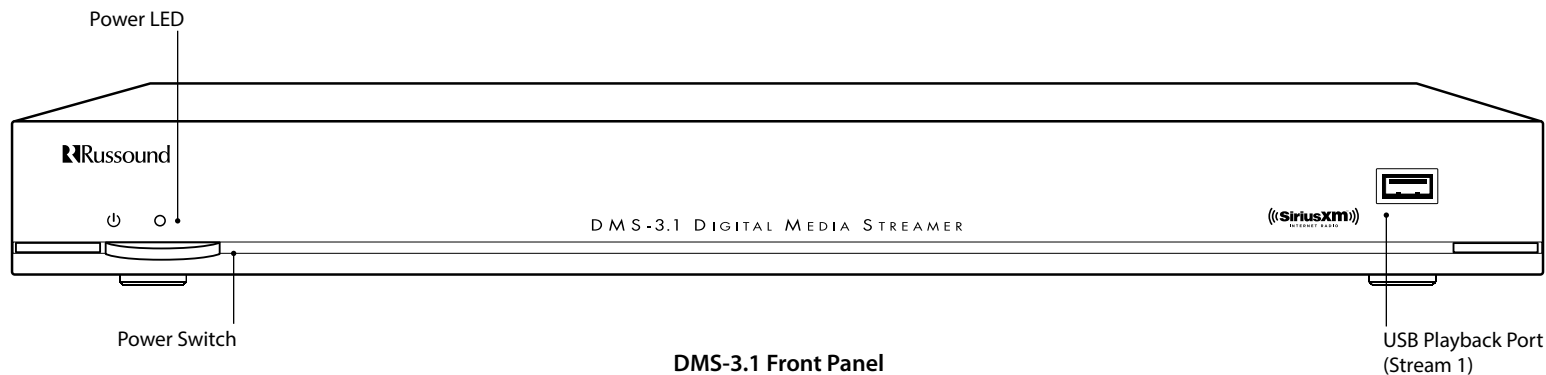
Rack Mounting

The DMS-3.1 can be rack mounted using the included rack-mount ears and hardware. The unit will take up one rack space.

Features

- Three independent streams
- Apple AirPlay enabled for streaming of audio content
- Streams content from internet radio stations and music service providers
- Provides access and playback of digital audio files on LAN-connected DLNA / UPnP media servers
- Playback of audio content from USB storage devices using a FAT16 or FAT32 file system
- Built-in AM/FM tuner with RDS feedback
- Supports Hi-Res Audio (24-bit/192kHz)

FRONT AND BACK PANEL



DMS-3.1 Rear Panel

Power LED

The Power LED is lit solid red when the DMS-3.1 is powered on. This LED can also indicate other DMS-3.1 status information as described under the Status Indication section at the end of this manual.

Power switch

Turns the streamer on/off. This switch disconnects the main power feed.

Ethernet port

The Ethernet connection provides the link for the DMS-3.1 to the network for control and access to content. For AirPlay use, the DMS-3.1 must be on the same network as the AirPlay source. If used with a MCA-Series controller, the DMS-3.1 requires a connection to the same network for control and displaying metadata on keypads and touch screens. RJ45 Ethernet port supports 10/100BASE-T connectivity for TCP/IP communication over the Local Area Network (LAN) with other devices and to the internet.

There are two LEDs on the Ethernet port of the DMS-3.1 that indicate the status of the network connection. These are described under the Status Indication section at the end of this manual.

AUX USB port for firmware updates

The AUX USB port supports firmware updates from a USB drive. This port does not support music playback.

Once released, firmware files and update procedures are available for download from the Support Center at www.russound.com.

12VDC trigger in/out

The 12VDC Trigger input is not used at this time for the DMS-3.1 but any connection made to this will be passed through to the output.

Audio output

There are 4 sets of stereo RCA audio outputs to connect the DMS-3.1 to an audio system: one for each of the three streams and one for the AM/FM tuner.

Source ID switch

There are 4 Source ID switches on the DMS-3.1 that correspond with the three streaming modules and the built-in AM/FM tuner. Each switch must be set to a unique value. The default settings for the Source ID switch are as follows: Stream 1 = Source 2, Stream 2 = Source 3, Stream 3 = Source 4, Tuner = Source 5. This is done so that a DMS-3.1 will work immediately with a new MCA-series controller with no configuration needed. If the DMS-3.1 is used with a MCA-Series controller, each switch value must correspond to the configuration settings of the controller for proper source identification and communication.

Front panel USB playback port

The front panel USB port corresponds to Stream 1 for playback of digital audio files from connected storage devices such as hard drives and flash memory devices.

Back panel USB playback port

The back panel USB ports correspond to Stream 2 and Stream 3 for playback of digital audio files from connected storage devices such as hard drives and flash memory devices.

FM antenna connection

The FM antenna connects to the F-type coax connection.

AM antenna connection

The AM loop antenna connects to the GND (ground) and AM spring terminals.

AC input

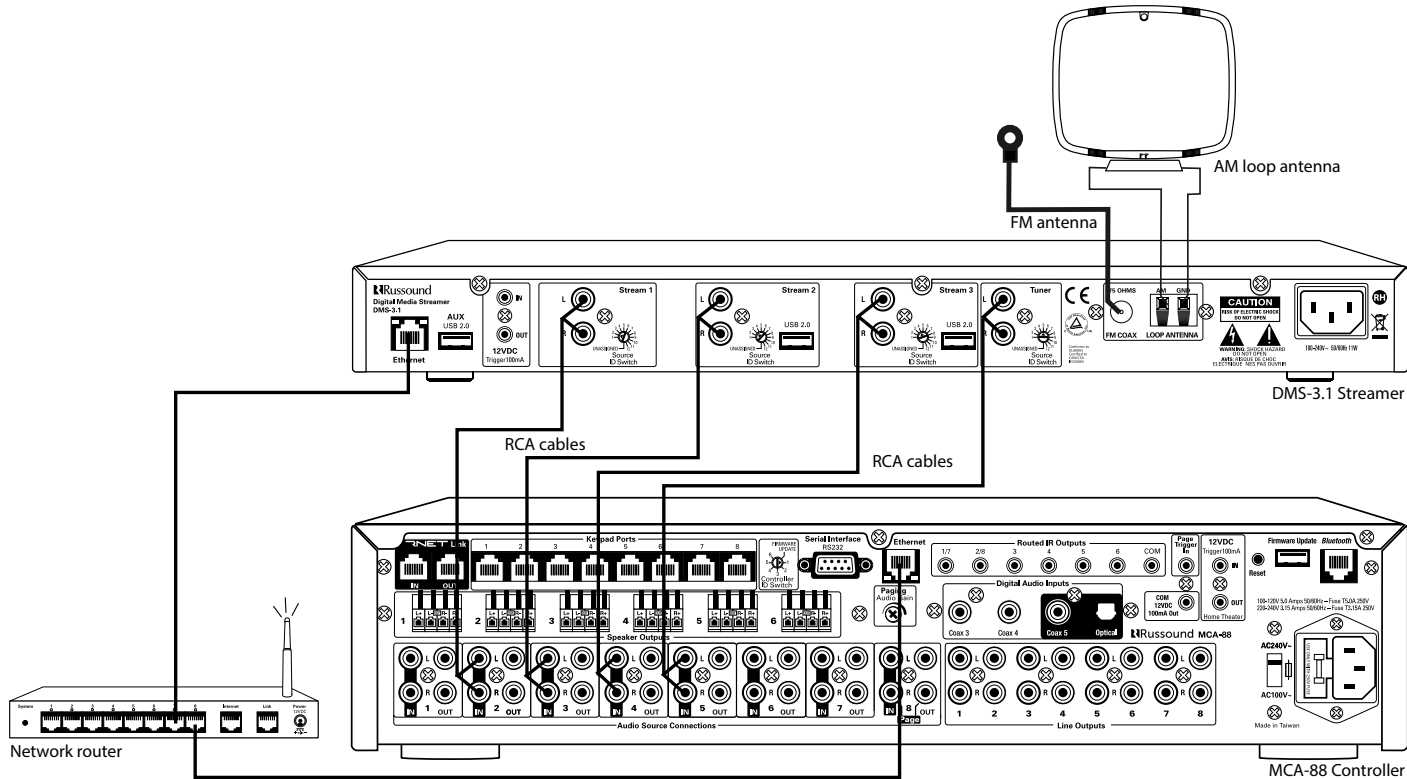
Voltage is autoswitching for 100V to 240V operation 50-60 Hz. This receptacle accepts a 3-prong IEC C13 type connector. A detachable 3-terminal power cord is included.

AUDIO CONNECTIONS WITH MCA-SERIES CONTROLLERS

The DMS-3.1 can be used with a Russound MCA-Series controller and supported user interfaces to access all features and provide amplification for speakers in multiple locations. Use standard RCA audio patch cables (included) to connect the audio outputs of the DMS-3.1 to the source inputs on the MCA-Series controller.

For proper operation with MCA-Series controllers, the DMS-3.1 source ID switches need to be set to correspond to the source inputs used on the MCA-Series controller. These settings must match the MCA-Series controller system configuration programmed through Russound's SCS-C5 software.

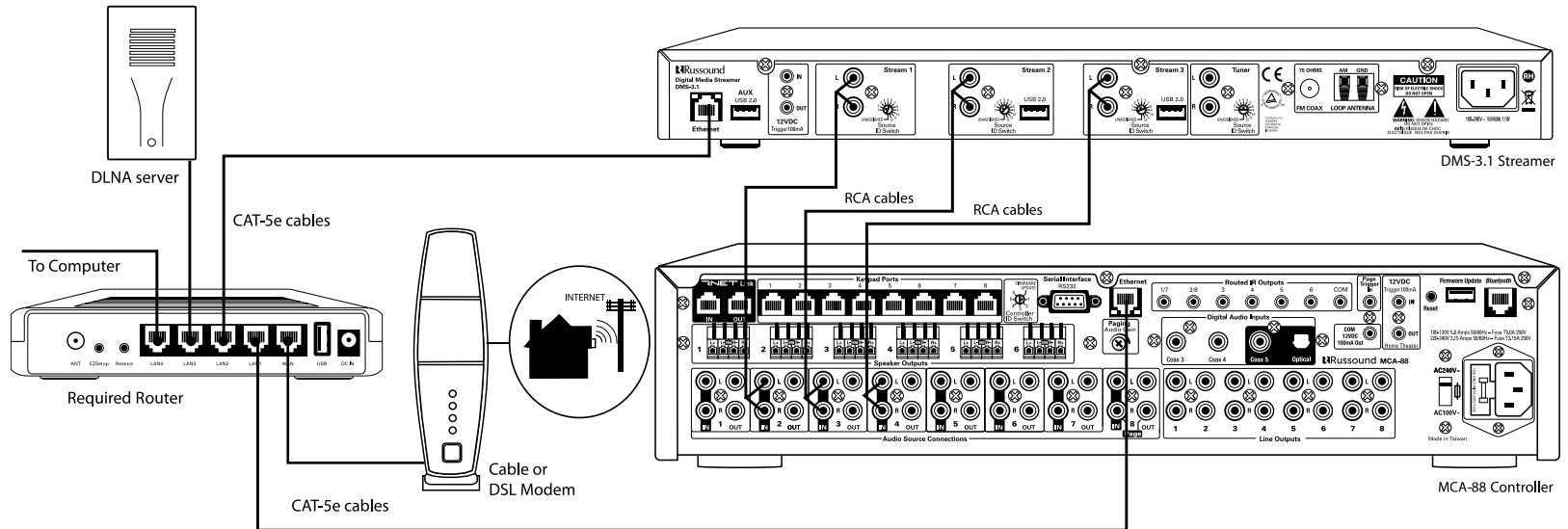
For more information, please refer to your MCA-Series product manual.



Connections for audio

The DMS-3.1 requires an Ethernet connection to the Local Area Network (LAN) on which the network-compatible sources and the MCA-Series controllers reside. This allows for the devices to communicate and exchange content, metadata, and control data. Internet access on the LAN is also required for streaming content from Russound supported digital streaming services.

The DMS-3.1 requires a DHCP-enabled router to obtain its IP address on the LAN for initial configuration. A dedicated wireless 802.11n router is recommended. A standard CAT5 Ethernet patch cable is used to connect the DMS-3.1 to the network.



Ethernet connection to network

AM/FM ANTENNA CONNECTIONS, 12V TRIGGER IN / OUT

AM Antenna

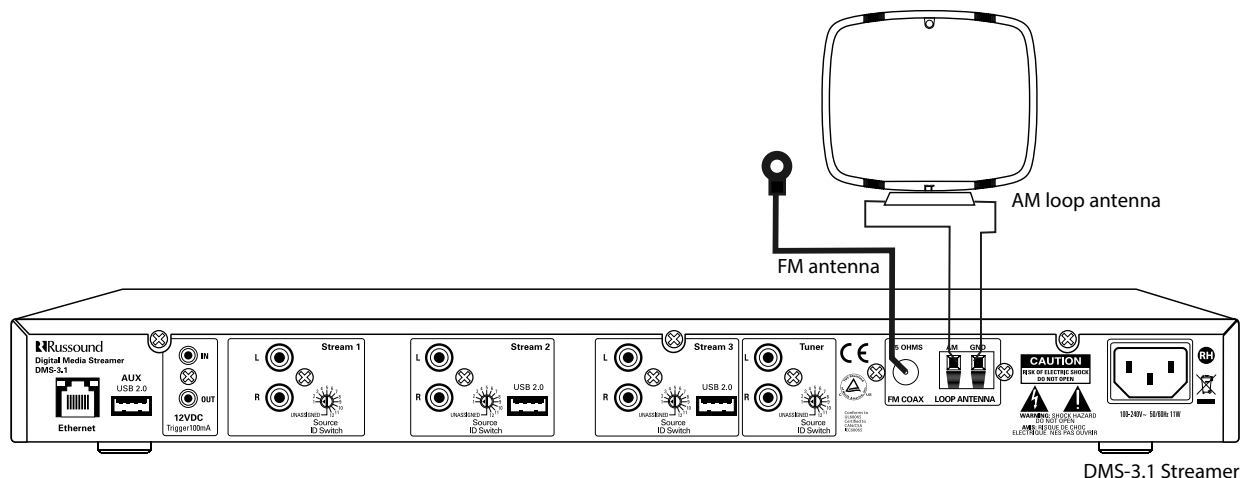
Connect the included loop antenna for AM reception to the back panel, attaching the GND (ground) and AM ends to the appropriate connections. It is recommended to use an external outdoor or attic-mounted long wire antenna for best performance for AM reception. Use a 75-ohm to 300-ohm balun at the AM connection on the unit, and attach the 75-ohm coax cable to the balun.

FM Antenna

Attach the included FM antenna to the FM COAX connection on the back panel by pushing the F-type quick-connect termination of the antenna onto the FM connection. It is recommended to use an external outdoor or attic-mounted long wire antenna for best performance for FM reception. Attach the desired length of 75-ohm coax cable directly to the FM connection on the unit.

12VDC Triggers

The DMS-3.1 provides a loop through for a 12VDC trigger signal. The DMS-3.1 does not require a 12VDC trigger signal for operation and does not provide 12VDC trigger output voltage.

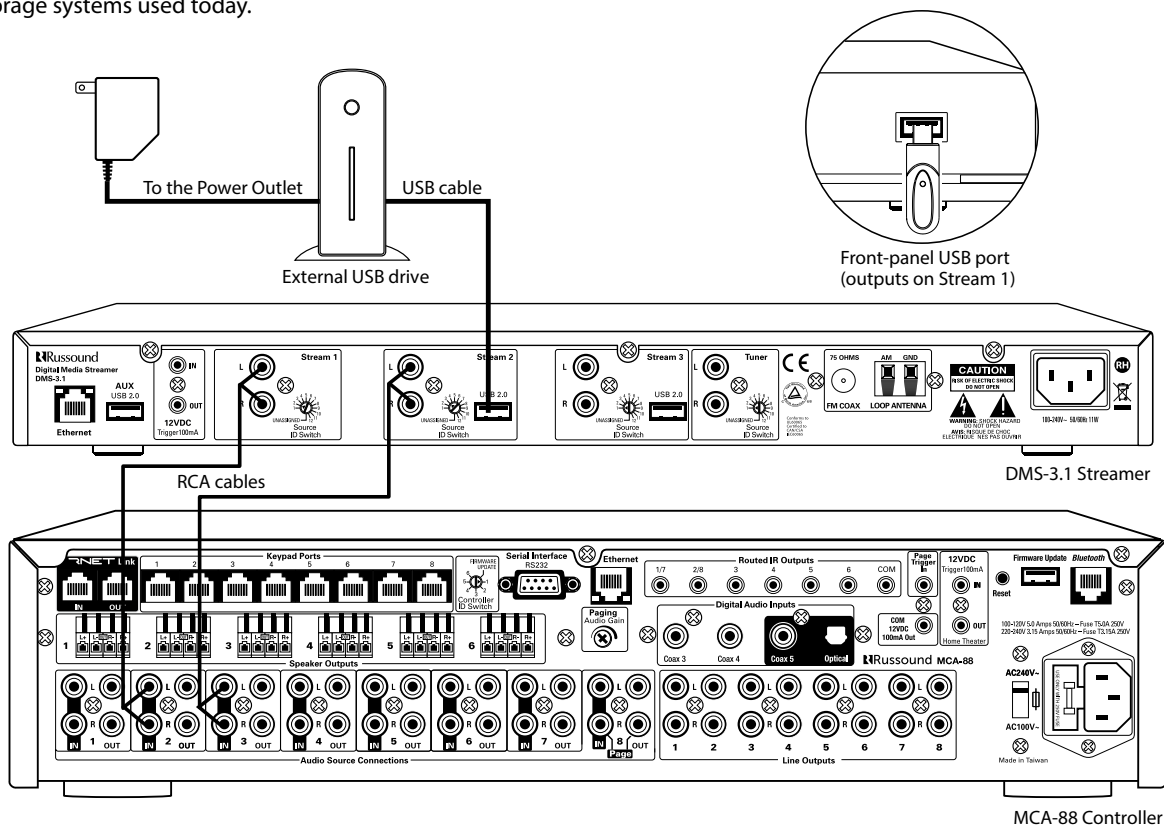


Connections for AM/FM tuner

If used with an MCA-Series controller, the DMS-3.1 can be used to play audio files directly from a connected USB 2.0-compliant storage device. The three USB ports are each associated with one of the three streaming modules in the DMS-3.1. The front panel USB port corresponds to stream 1 while stream 2 and stream 3 have USB ports on the back panel. Content connected to a particular USB port is only available to its associated stream output. The USB storage device used must be formatted for a FAT16 or FAT32 file system. These are the most common file storage systems used today.

Note: The menu structure for DMS-3.1 navigation of a USB storage device is determined by that device. The DMS-3.1 filters the files based on supported audio file types so any photo or movie files will not be shown. However, folders may be visible which are not related to audio file playback.

The USB ports are not powered. If an External Hard Drive is connected via an USB port, it must have its own power supply.



Connections for USB drive output

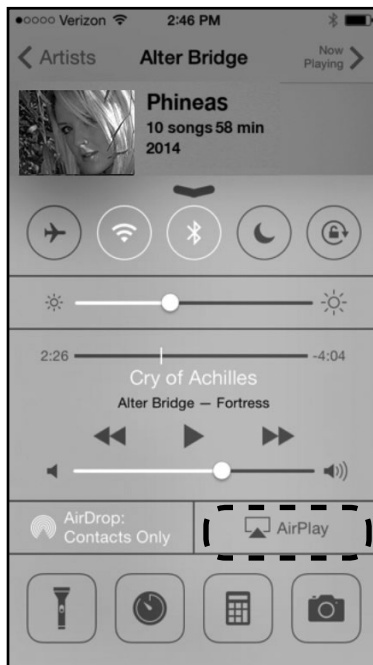
LISTENING TO AIRPLAY STREAMING

The DMS-3.1 supports Apple's AirPlay technology. Airplay allows you to wirelessly stream the high quality audio content on your iOS device across your home network. AirPlay also shares metadata and provides simple control commands from your iOS device or computer. With AirPlay, your iOS device becomes an extension of your audio system.

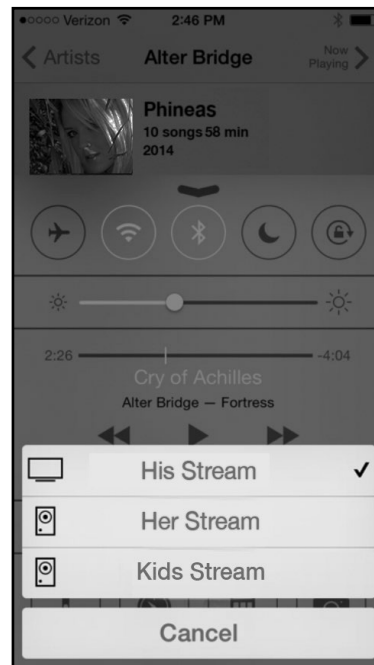
How to use AirPlay on your iOS device:



Open your music app and choose an artist from your playlist.



Swipe from the bottom of the screen to the top of the screen to reveal the AirPlay menu.



When you tap the AirPlay icon, a list of devices will appear for you to stream to. The DMS-3.1 will appear either as the streamer name or unique device name that's been assigned. Select the DMS-3.1 device name and the music will begin playing.

Note: If you have a connected keypad or the MyRusound app, the iOS device will show the metadata and transport controls such as Play/Pause, next and previous track, and volume up and down.

Using This Device With Spotify Connect

Spotify is an award-winning digital music service that gives you on-demand access to over 20 million tracks. Spotify makes it easier than ever to discover, manage and share music with your friends, while making sure that artists get a fair deal. Spotify lets you listen to millions of songs – the artists you love, the latest hits and discoveries just for you.

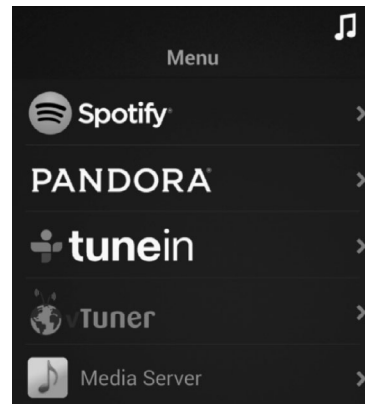
Spotify is not only extremely popular in the US but also worldwide. Spotify is available in 57 markets globally, making it the largest worldwide availability of any streaming service.

The DMS-3.1 Media Streamer supports Spotify Connect, allowing you to play Spotify on your DMS-3.1 Media Streamer using the Spotify App on your phone or tablet.

In order to get Spotify, the Spotify App must be installed on the phone or tablet that is connected to the same network as your Russound system. The Spotify App is available for download from the App Store for iOS devices and from the Google® Play Store for Android® devices. However, in order to use Spotify on your Russound system, a Spotify Premium Account is required. New users to Spotify can receive a 30-day free trial from Spotify by going to www.spotify.com/freetrial.

Step 1. Connect DMS-3.1 to the same network as your phone, tablet or PC running the Spotify app.

Step 2. In the MyRussound app, go to the streaming services menu and choose Spotify. The Spotify app will open. If your phone/tablet doesn't have the Spotify App installed, you will be taken directly to the App Store (iOS) or the Google Play Store (Android) to download and install it.



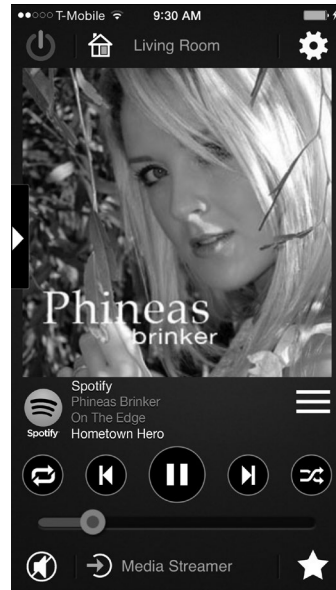
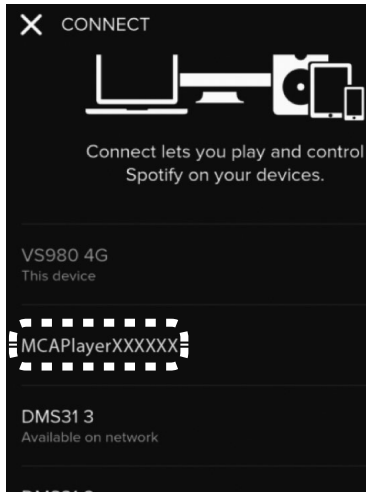
Step 3. Play any song to navigate to the Now Playing screen. Press the Spotify Connect Logo (speaker within a circle on the bottom right of the Spotify app).



Spotify Connect®

LISTENING TO SPOTIFY®

Step 4. In the Connect menu, choose your Russound device from the list of available devices that appear.



Step 5. Once you have selected your Russound device, your Spotify music will play on your Russound device. Your music is now being streamed from the Spotify server and can be controlled from your MyRussound™ App or keypad, or you can continue controlling your music from the Spotify App.

Since the Spotify App streams from the Spotify server rather than from the phone/tablet, the phone/tablet is no longer required in order to continue playing your Spotify music. Unlike AirPlay, the music will continue playing if your phone/tablet gets disconnected from the Wi-Fi network or if you get a phone call.

Controlling the volume:

On the DMS-3.1, adjusting the Spotify App volume will raise or lower the source volume but will not adjust the zone volume level of your Russound system. The MyRussound App or a Russound keypad should be used to change zone volumes.

Note: When mute is selected on the MyRussound App, the Spotify App will indicate minimum volume.

For information on how to set up and use Spotify Connect please visit www.spotify.com/connect

The Spotify Software is subject to third party licenses found here : www.spotify.com/connect/third-party-licenses.

Pandora provides a customized experience allowing you to create up to 100 stations based on your musical preferences. You can access the same Pandora account on all network-connected DMS-3.1 streams.

To listen to Pandora, you will need to subscribe to Pandora Radio service and obtain a valid username and password. This is done easily by accessing the Pandora Radio web-site to create either a free or paid account. The DMS-3.1 will allow you to login to Pandora and start your listening experience. If you have not created any stations prior to logging into the DMS-3.1, you will be prompted to do so after entering the Pandora menu option.

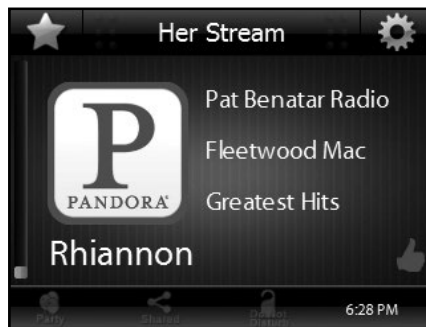
You can now play any Pandora stations that exist in your library as well as using the options available to create new stations using any of these three features.

- **Create New Station:** this allows you to search by artists, song titles, and genres.
- **New Station from Track:** this will create a new station based on the song that is currently playing
- **New Station from Artist:** this will create a new station based on the artist that is currently playing

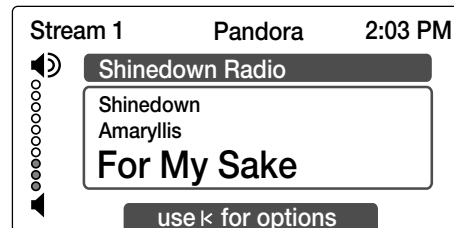
You will have the ability to rate songs by giving them a 'Thumbs Up' or 'Thumbs Down'. Giving a song thumbs up will cause Pandora to play that song more often on a particular station. 'Thumbs Up' will also fine-tune your station by playing more songs with similar characteristics. Give a song a 'Thumbs Down' will cause Pandora to remove the song from being played on a particular station. You will also have access to other Pandora features such as book-marking tracks, putting tracks on the shelf for a while, renaming stations, deleting stations, and finding out more information about why a track is playing.

Note: When using the MDK-C6 keypads (sold separately), you will need to press the Previous (|<) button in order to access the Pandora Options menu.

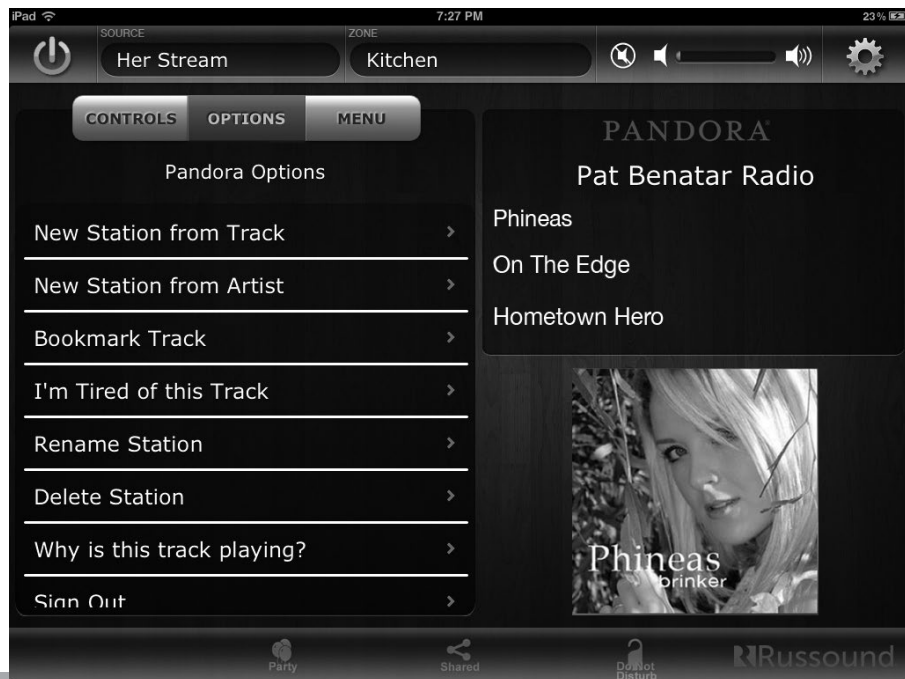
TS3 Now Playing Screen



MDK-C6 Now Playing Screen



MyRussound App Now Playing Screen



LISTENING TO SIRIUSXM® INTERNET RADIO

SiriusXM Internet Radio delivers a variety of commercial-free music including Pop, Rock, Country, R&B, Hip-Hop, Jazz, Classical and much more, plus expert sports talk and analysis. You also get exclusive entertainment, talk, comedy, family programming, local traffic and weather and news from your most trusted sources

There are a variety of programming packages available, including the option of adding “The Best of XM” programming to the SiriusXM Internet Radio service. “The Best of XM” service is not available to Sirius Canada subscribers at this time. Please check with Sirius Canada for any updates using the numbers and web address below.

Family friendly packages are also available to restrict channels that feature mature programming.

To listen to SiriusXM Internet Radio, you'll need to subscribe to SiriusXM Internet Radio service and obtain a username and password. SiriusXM Internet Radio is available to residents of the United States , Puerto Rico, and Canada.

To subscribe to SiriusXM Internet Radio, U.S. customers should visit www.sirius.com/internetradio or call 1-888-539-SIRI (1-888-539-7474).

Canadian customers should visit www.siriuscanada.ca

Current XM Radio Online subscribers will need to log into the XM online account manager and update their password in order for their credentials to work on a SiriusXM Internet Radio compatible device. If the username is over 50 characters long subscribers will need to update the username on the same screen.

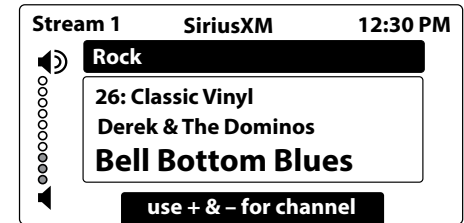
SiriusXM Internet radio permits one instance of streaming content per subscription. While the same user account credentials can be entered into all streaming modules of multiple DMS-3.1 products, only one can stream content at any given time. Selection from another streaming module will disconnect prior instances of SiriusXM internet radio streaming. Once account credentials are entered, they are saved on the DMS-3.1 for future use. After logging out, the username and password can be cleared from the log in screen to prevent unwanted access.

SiriusXM channels are filtered by categories so the user will first be prompted for the selection of the category, then the list of all channels within that category will be presented for selection.

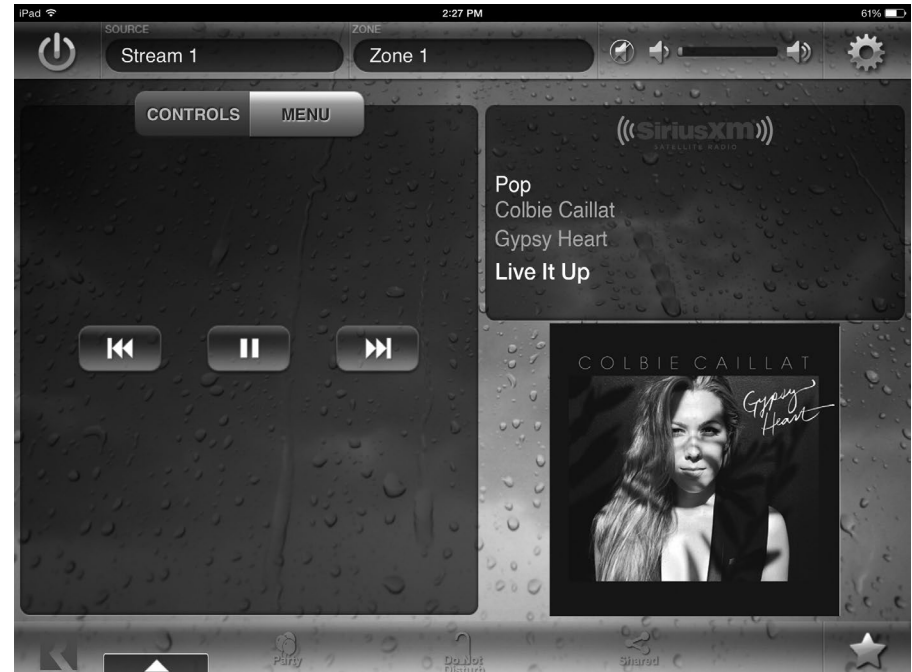
TS3 Now Playing Screen



MDK-C6 Now Playing Screen



MyRussound App Now Playing Screen

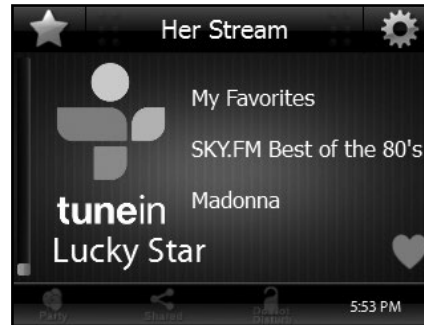


TuneIn™ Internet Radio can be accessed on the DMS-3.1 and is supported through all user interfaces. TuneIn™ lets you listen to the world's radio from the any DMS-3.1 connected in the home. Whether you love sports, music, news, or comedy, TuneIn gives you the best of what's live with 70,000 radio stations as well as two million on-demand programs. Over 40 million listeners use TuneIn every month, across 200 platforms worldwide. You do not need to subscribe to TuneIn radio with the DMS-3.1 to enjoy content streaming from the cloud. Listening is easy and the choices are abundant.

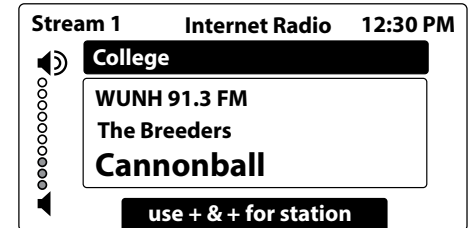
Your TuneIn service can be linked to a TuneIn account by using the TuneIn website. The association code that is required can be found by selecting "Association Code" at the bottom of the TuneIn navigation menu from your MyRusound app.

For more information on TuneIn and to access online, visit at: <http://www.tunein.com>.

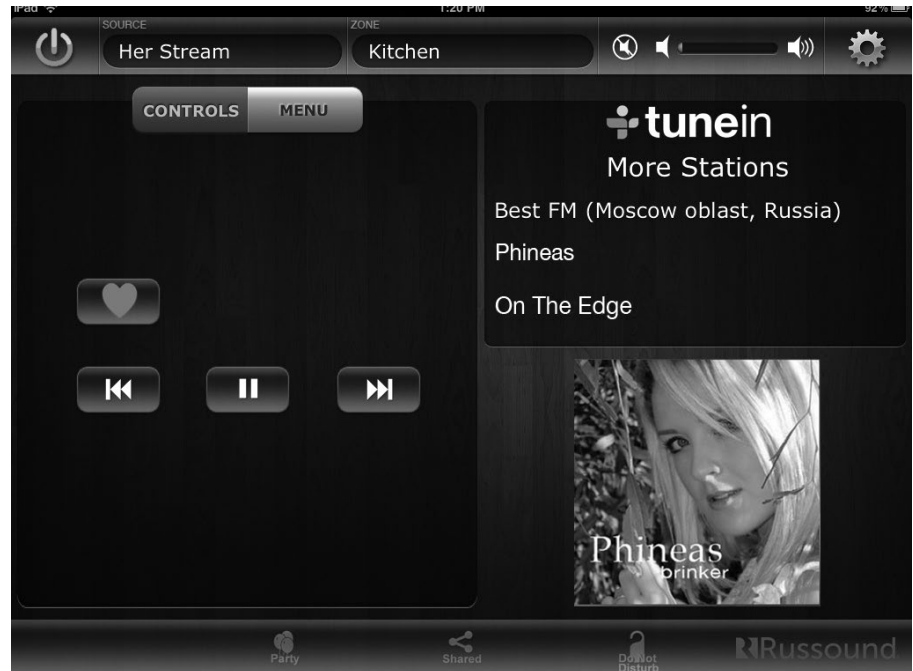
TS3 Now Playing Screen



MDK-C6 Now Playing Screen



MyRusound App Now Playing Screen



LISTENING TO vTUNER INTERNET RADIO

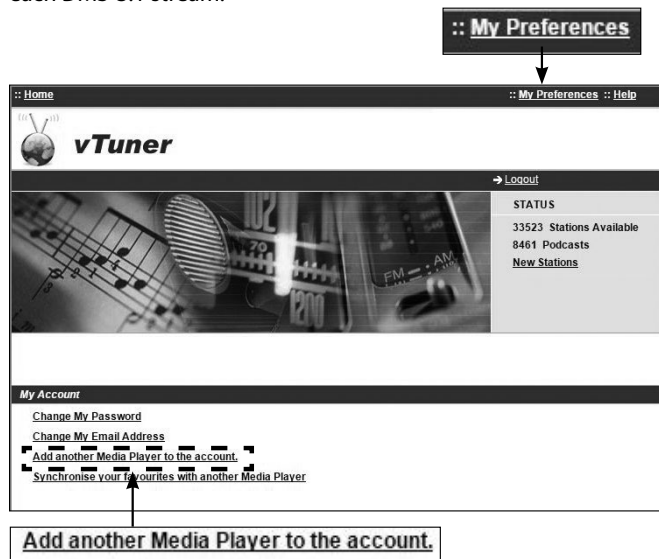
vTuner Internet Radio can be accessed through any supported user interface. vTuner Internet Radio provides access to thousands of internet radio stations and Podcasts from around the world. Users can filter content by Local Stations, Location, Genre, New Stations, Most Popular, and Favorites.

Users can access the online web portal at:
<http://russound.vtuner.com>

Using the DMS-3.1 and vTuner, users can search stations & podcasts, create favorites, and even add stations not listed in the vTuner database.

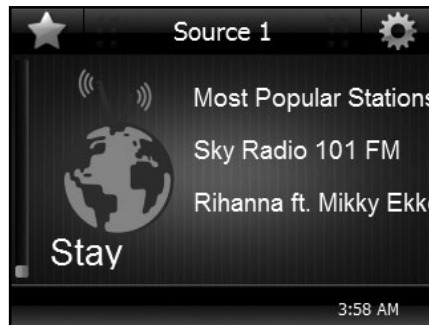
Users can create an account for the vTuner online web portal, users will need to provide the Access Code of their DMS-3.1 as well as a valid email address and a password. Select the "Get access code" option within the vTuner menu to display the access code.

At the vTuner web portal, create an account and access the My Preferences page. Here you can enter the unique Access Code for each DMS-3.1 stream.

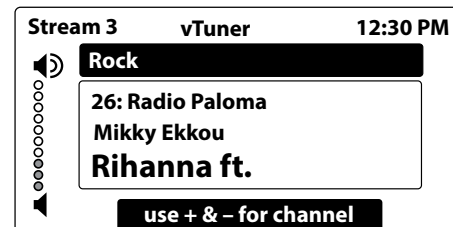


MyRussound App Now Playing Screen

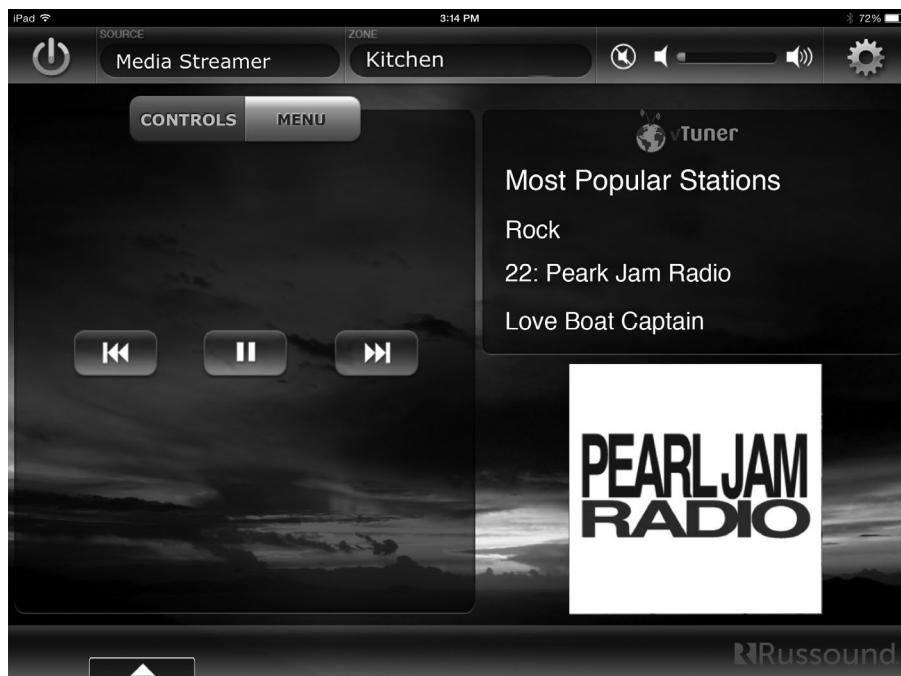
TS3 Now Playing Screen



MDK-C6 Now Playing Screen



MyRussound App Now Playing Screen



The DMS-3.1 can access audio files that reside on a network connected computer or NAS storage device that is UPnP/DLNA compliant. UPnP (Universal Plug and Play) and DLNA (Digital Living Network Alliance) protocols permit network connected devices to discover each other and share content and control. Many media player software programs feature UPnP/DLNA capabilities, and more networked storage devices are providing UPnP/DLNA server functionality.

The DMS-3.1 supports multiple file formats: MP3 (CBR, VBR), WAV (8, 16, and 24-bit), OGG Vorbis, FLAC (8, 16, and 24-bit). AAC and AAC+ file formats, which are used by Apple for music purchased through iTunes, can also be played. Any content that is protected with DRM (Digital Rights Management) can not be played back.

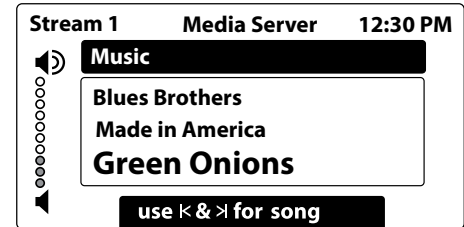
Users can also install UPnP/DLNA media server software on their computers to access iTunes library content and control it from a Russound user interface.

The menu structure for locating and playing your music will vary depending on the DLNA server being used. Feel free to experiment with different software or hardware to find the best one for your needs.

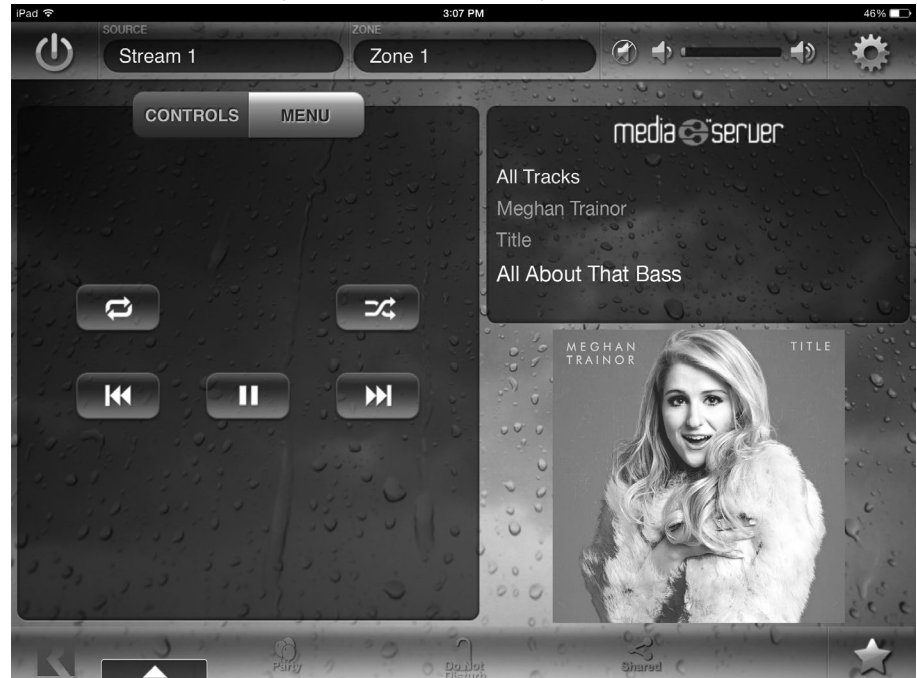
TS3 Now Playing Screen



MDK-C6 Now Playing Screen



MyRusound App Now Playing Screen



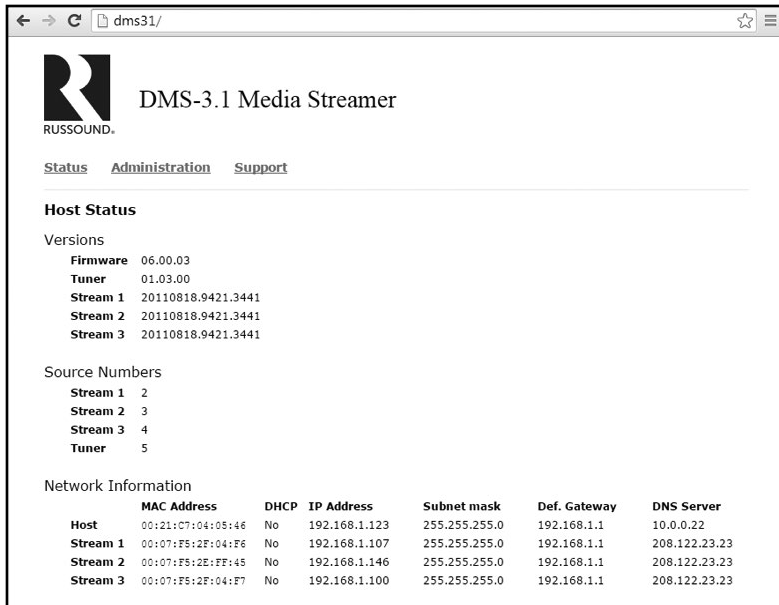
DMS-3.1 WEB GUI

The DMS-3.1 offers a Web GUI for Network information configuring AirPlay stream names, and enabling/disabling of services. The DMS-3.1 has a total of 4 IP addresses: 1 host IP address and an IP address for each of the 3 individual streamers.

In a browser on the same network as the DMS-3.1, type the Host IP address of the DMS-3.1, or you can just enter `http://dms31`

Under Administration, settings for the Host IP and each individual stream can be accessed. On the Host page, a static IP can be set for the DMS-3.1 Host IP. On each Stream page, a static IP can be set for each stream. In addition, a Device Name can be entered for Airplay and DLNA Services.

Each service can be enabled or disabled, as well as reordered. For example, if a user does not have a SiriusXM account, this service can be disabled, and it will not be displayed on any Russound interface. In addition, each stream can have services enabled or disabled, so the stream can be configured to allow only certain services to be displayed on each stream. For example, Pandora can be configured to be accessed on stream 1 only, Spotify on stream 2 only, etc.



The screenshot shows the 'Host Status' page of the DMS-3.1 Media Streamer web GUI. The page includes sections for Versions, Source Numbers, and Network Information.

Host Status

Versions

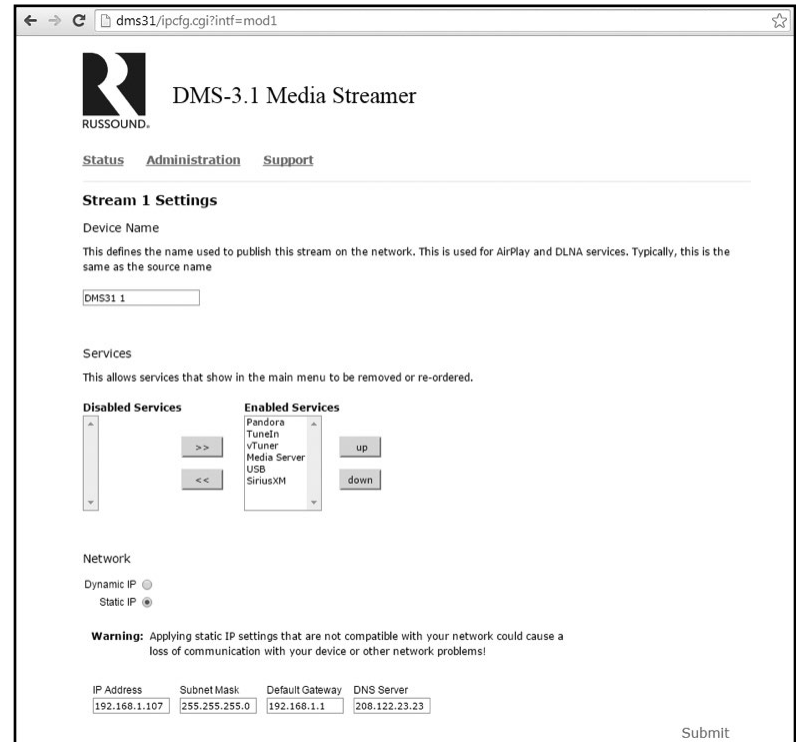
Component	Version
Firmware	06.00.03
Tuner	01.03.00
Stream 1	20110818.9421.3441
Stream 2	20110818.9421.3441
Stream 3	20110818.9421.3441

Source Numbers

Component	Source Number
Stream 1	2
Stream 2	3
Stream 3	4
Tuner	5

Network Information

	MAC Address	DHCP	IP Address	Subnet mask	Def. Gateway	DNS Server
Host	00:21:07:04:05:46	No	192.168.1.123	255.255.255.0	192.168.1.1	10.0.0.22
Stream 1	00:07:F5:2F:04:F6	No	192.168.1.107	255.255.255.0	192.168.1.1	208.122.23.23
Stream 2	00:07:F5:2E:FF:45	No	192.168.1.146	255.255.255.0	192.168.1.1	208.122.23.23
Stream 3	00:07:F5:2F:04:F7	No	192.168.1.100	255.255.255.0	192.168.1.1	208.122.23.23



The screenshot shows the 'Stream 1 Settings' page of the DMS-3.1 Media Streamer web GUI. The page includes sections for Device Name, Services, Network, and a Warning message.

Stream 1 Settings

Device Name

This defines the name used to publish this stream on the network. This is used for AirPlay and DLNA services. Typically, this is the same as the source name

DMS31 1

Services

This allows services that show in the main menu to be removed or re-ordered.

Disabled Services

Enabled Services

Pandora
TuneIn
vTuner
Media Server
USB
SiriusXM

Network

Dynamic IP ☐
Static IP ☒

Warning: Applying static IP settings that are not compatible with your network could cause a loss of communication with your device or other network problems!

IP Address	Subnet Mask	Default Gateway	DNS Server
192.168.1.107	255.255.255.0	192.168.1.1	208.122.23.23

Submit

Status Indicators

Ethernet Green LED Solid – Indicates a network link connection

Ethernet Green LED Off – Indicates a problem with the network connection. Replace the CAT5 network patch cable.

Ethernet Orange LED – Indicates active network communication when blinking.

Power LED Two Fast Blinks, Pause – Critical Firmware Problem. Update to the firmware or contact Russound technical support for assistance.

Power LED Fast Blink – Online or USB update in progress. Do not disconnect power

Power LED Slow Blink – AM/FM Tuner module or streaming module update in progress. Do not disconnect power

Power LED one Blink per Second – Ready for factory initialization

Power LED Three Fast Blinks, Pause – Factory initialization complete

DMS-3.1 Digital Media Streamer

Frequency Response: 20Hz to 20KHz

Audio Source Outputs: (4) Stereo RCA jacks

Line Audio Output: 2 Vrms

Digital Audio Inputs: (3) USB 2.0/1.1 ports

Communication ports: 1 Ethernet RJ45, 10/100 Base T

Music File Formats: MP3 (CBR, VBR), WAV (8, 16-bit), OGG Vorbis, FLAC (8, 16-bit). AAC, AAC+ (supports up to 24-bit/192 kHz)

AM/FM Tuner Frequency Range: AM 530 - 1710 kHz

FM 87.7 - 107.9 MHz

Antenna impedance AM: 300 Ohm balanced

Impedance FM: 75 Ohm unbalanced

Sensitivity: AM: @20 dB S/N 55 dBu

FM: @30 dB S/N 6 dB max 12 dBu

Image rejection: AM: 33 dB FM: 80dB

S/N ratio: AM: 45dB FM: 60 dB

Input Trigger: 12VDC

Output Trigger: 12VDC pass-through

Power Requirements: 100-240VAC 50/60Hz 11W

(Autoswitching Power Supply) IEC C13 type connector with 3 terminal detachable power cord.

Standby Power: ≤ 1.0 W

Dimensions: 17" W x 8.5"D x 1.7"H (43 x 21.7 x 4.3cm)

Weight: 9.0 lbs. (4 kg)

TROUBLESHOOTING

DMS-3.1 Factory Initialization Procedure

Note: this procedure deletes all settings and accounts.

1. Turn the DMS-3.1 Off
2. Set the four source ID rotary switches to the "Unassigned" position (6 o'clock)
3. Power ON the DMS-3.1
4. Wait for the Power LED to start blinking once per second (takes about 30 seconds)
5. Set the Stream 1 source ID rotary switch to source 5 (12 O'clock)
6. Wait for Power LED to blink with a pattern of three quick flashes and a pause (about 30 to 60 seconds)
7. Set the source ID switches as required for normal operation and power cycle the DMS-3.1

Problem	Solution
Selected DMS-3.1 Stream source from a keypad shows error message "Please Wait"	First check the Source Dials on the rear of the DMS-3.1 for proper source ID assignments. Other possible causes are a network connection issue between MCA controller and DMS-3.1 • Verify Ethernet cables are connected to both MCA and DMS-3.1 • Verify Ethernet connection lights for cables are lit – Green for cable connected, Amber for DHCP traffic • Try a power cycle of the DMS-3.1, MCA controller and Router • Try isolating possible network conflicts by connecting MCA and DMS-3.1 directly to the router, bypassing any switches • Check DHCP router table or use IP scanning app to verify MCA and DMS-3.1 are being given IP addresses

Connected USB flash drive does not show up under the Media Server option of the DMS-3.1stream	• USB flash drive must be formatted to FAT16 or FAT32 • Verify the USB drive is connected to the correct corresponding USB port. The Front USB port is for Stream 1.
Connected USB External Hard Drive does not show up under the Media Server option of the DMS-3.1stream	USB External Hard Drives must be externally powered. The DMS-3.1 cannot use USB-powered hard drives
A NAS (Network Attached Storage) drive media does not show under the Media Server options of the DMS	Most NAS drives have a DLNA server built-in. Check with the NAS drive manufacturer for information on how its DLNA services are enabled.
AirPlay stream options do not appear on the iOS device (iPad, iPhone, etc)	• Verify DMS-3.1 firmware is at least 2.00.01 • Verify DMS-3.1 streams operate from a keypad or other Russound interface • Verify the DMS-3.1 and the AirPlay source are on the same network/subnet • Verify AirPlay is an option in iTunes from a computer on the network
AirPlay stream skips or loses connection	• Turn off <i>Bluetooth</i> on the iOS device • Try isolating possible network conflicts by connecting MCA and DMS-3.1 directly to the router, bypassing any switches • Try setting the wireless router to a different broadcast channel • Wireless network congestion and interference from other wireless devices can affect AirPlay stream stability. Check with Apple Support for more information. http://support.apple.com/kb/TS4215

"Empty" error message displayed when accessing Internet Radio options	• Network connection problem • Verify network settings for DMS-3.1 and MCA • Try turning off network firewalls temporarily
The Song Metadata shown on the keypad is not the same as the audio heard through the speakers.	Verify the Source ID dials on the rear of the DMS-3.1 are assigned correctly for each Stream. They need to correspond to the appropriate source input of the MCA controller. If streaming, try a different streaming source.
Error 102, 104 or 105 on keypad when accessing Internet Radio	These are server-side errors. The Service generating the error may be experiencing technical difficulty. Reboot the DMS-3.1 and Router/Switches or try again later.
"Russound Media Streamer" is not a Device Type option in SCS-C5 Programming Software	SCS-C5 must be version 4.0.4.0 or higher
DMS-3.1 source names show on keypad, but pressing Menu on MDK-C6 does not access Stream option	Firmware version of MDK-C6 keypad needs to be 5.00.05 or higher

Networking Best Practices

The first step for troubleshooting is to check networking connections and power cycle the equipment to check for communication.

Keep connections as simple as possible and connect only the MCA-Series controller and DMS-3.1 to a dedicated router directly. Once communication is confirmed, connect other devices back onto the network.

A dedicated wireless 802.11n or better router is recommended. Best practice is to have the MCA-Series controller and DMS-3.1 hard wired directly to the router.

ISP supplied modem/router combination devices may have incompatible settings that can cause issues with the DMS-3.1 connecting or communicating across the network. It is recommended to not use these modem/router combination devices, because the end user may not have access to all services of the device. The ISP may have sole control over the device settings and send updates to reset, reinitialize, or replace the device at their discretion.

Check for **firmware updates** available for your Russound equipment to make sure the DMS-3.1 is up-to-date to take advantage of any additional features and supported services. To check the firmware version, navigate to System Check (Tools menu > System Check) from the SCS-C5 configuration software. SCS-C5 programming software: Tools menu > System Check.

The DMS-3.1 GUI can be accessed via a web browser by typing in the <http://dms31> name. If this fails, it could be an issue with NetBios (WINS) port 137 on the network. Alternatively, the IP address of the Russound equipment can be used to access the GUI.

Use a network discovery and IP scanning application that can assist to better understand the network, such as **FING** (<http://overlooksoft.com/FING>) is free and available for iOS and Android and can assist in identifying devices on the network and if there are any IP addressing conflicts.

Router Configuration:

A few routers may need additional configuration to prevent incompatibility or intermittent connection issues. Access the router and check user accessible settings that enable support for **Multicast** or **IGMP** or check for options that are actively filtering these protocols and disable them. (E.g. IGMP Proxy, Multicast Filtering). For example, if a customer can connect to a website as well as the MCA's Admin page (Unicast) but a Multicast stream like Airplay or communication is intermittent or fails, you will need to check these settings. Check for other options that could have an effect on communication: Options such as **UPnP** should be **enabled**. Options such as **IGMP Proxy**, **IGMP Snooping**, **Multicast Filtering** or **WMM Proxy** should be **disabled**.

Multicast: The delivery of a message or information to a group of destination computers simultaneously in a single transmission from the source.

Unicast: The delivery of a message or information to is sent from one point to another point. An example would be connecting to an IP address of a URL such as www.google.com.

IGMP: Internet Group Management Protocol is an integral part of IP Multicast and is used for one-to-many networking applications such as online streaming audio and video, gaming, and allows more efficient use of resources when supporting these types of applications.

WMM: Wireless Media Management is designed to support consumer and corporate applications and works with 802.11a, 802.11b and 802.11g. The specification provides basic prioritization of data packets based on four categories - voice, video, best effort and background.

UPnP: Universal Plug and Play uses Multicast and allows media servers and streaming devices to communicate.

LIMITED WARRANTY

The Russound DMS-3.1 is guaranteed against all defects in materials and workmanship for two (2) years from the date of purchase. During this period, Russound will replace any defective parts and correct any defect in workmanship without charge for either parts or labor.

For this warranty to apply, the unit must be installed and used according to its written instructions. If service is necessary, it must be performed by Russound. The unit must be returned to Russound at the owner's expense and with prior written permission. Accidental damage and shipping damage are not considered defects, nor is damage resulting from abuse or from servicing by an agency or person not specifically authorized in writing by Russound.

This Warranty does not cover:

- Damage caused by abuse, accident, misuse, negligence, or improper installation or operation
- Power surges and lightning strikes
- Normal wear and maintenance
- Products that have been altered or modified
- Any product whose identifying number, decal, serial number, etc. has been altered, defaced or removed.

Russound sells products only through authorized Dealers and Distributors to ensure that customers obtain proper support and service. Any Russound product purchased from an unauthorized dealer or other source, including retailers, mail order sellers and online sellers will not be honored or serviced under existing Russound warranty policy. Any sale of products by an unauthorized source or other manner not authorized by Russound shall void the warranty on the applicable product.

Damage to or destruction of components due to application of excessive power voids the warranty on those parts. In these cases, repairs will be made on the basis of the retail value of the parts and labor. To return for repairs, the unit must be shipped to Russound at the owner's expense, along with a note explaining the nature of service required. Be sure to pack the unit in a corrugated container with at least three (3) inches of resilient material to protect the unit from damage in transit.

Before returning a unit for repair, call Russound at (603) 659-5170 for a Return Authorization number. Write this number on the shipping label and ship to:

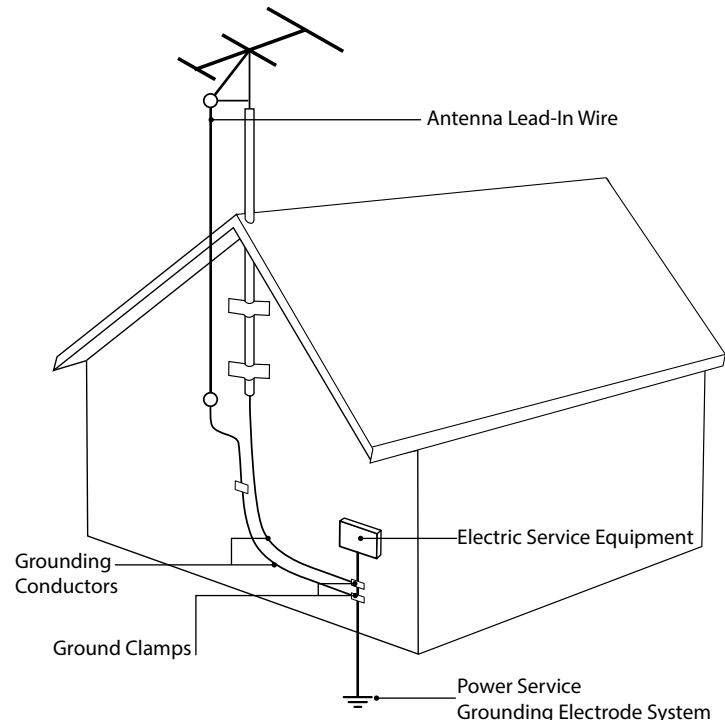
Russound
ATTN: Service
1 Forbes Road
Newmarket, NH 03857

Due to continual efforts to improve product quality as new technology and techniques become available, Russound/FMP, Inc. reserves the right to revise system specifications without notice.

SAFETY - OUTDOOR ANTENNA CONNECTION

Grounding an Outdoor Antenna

If the AM/FM tuner is used with an outdoor antenna, the antenna must be grounded against static charges and voltage surges. Consult the instructions that came with the antenna or contact the antenna manufacturer for proper installation instructions. The diagram gives a general depiction of how an outdoor antenna should be grounded. For complete guidelines on antenna grounding procedures, please consult the National Electrical Code, Section 810, ANSI/NFPA No. 70-1984.





WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.



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



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Safety Instructions

1. Read Instructions - All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions - The safety and operating instructions should be retained for future reference.
3. Heed Warnings - All warnings on the appliance in the operating instructions should be adhered to.
4. Follow Instructions - All operating and user instructions should be followed.
5. Water and Moisture - The appliance should not be used near water; for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool. The apparatus shall not be exposed to dripping or splashing liquids and no objects filled with liquids, such as vases, shall be placed on the apparatus. Do not touch the appliance with wet hands. Do not handle the appliance or power cord with wet or damp hands. If water or any other liquid enters the appliance cabinet, take it to qualified service personnel for inspection.

6. Cleaning - The appliance should be cleaned only as recommended by the manufacturer. From time to time you should wipe off the front and side panels and the cabinet with a soft cloth. Do not use rough material, thinners, alcohol or other chemical solvents or cloths since this may damage the finish or remove the panel lettering.
7. Ventilation - The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings, or placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings. Place the unit in a well-ventilated location, leaving at least 2 inches (5 cm) of clearance on all sides, top and rear of unit for air flow. If ventilation is blocked, the unit may overheat and malfunction.
8. Heat - The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
9. Grounding or Polarization - Precaution should be taken so that the grounding or polarization means of an appliance is not defeated.
10. 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, receptacles, and the point where they exit from the appliance.
11. Power Sources - The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
12. Main Power Disconnect - The power switch is a single-pole switch. When the switch is in the "Off" position, the appliance is not completely disconnected from the main power. The main power plug is used as the disconnect device and shall remain readily operable. When installing the product, ensure that the plug is easily accessible.
13. Non-Use Periods - The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
14. Attachments - Only use attachments/accessories specified by the manufacturer.
15. Carts and Stands - The appliance should be used only with a cart or stand that is recommended by the manufacturer. An appliance and cart combination should be moved with care. Quick stops, excessive



force and uneven surfaces may cause the appliance and cart combination to overturn.

16. Wall or Ceiling Mounting - The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
17. Location of the Amplifier - Do not mount this unit under a kitchen cabinet. Do not expose the amplifier to direct sun light or heating units as the amplifier internal components' temperature may rise and shorten the life of the components. Avoid damp and dusty places.
18. Object and Liquid Entry - Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through the openings.
19. Servicing - The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.
20. Damage Requiring Service - The appliance should be serviced by qualified service personnel when: A. The power supply cord or the plug has been damaged; B. Objects have fallen, liquid has been spilled into the appliance; C. The appliance has been exposed to rain; or D. The appliance does not appear to operate normally; or E. The appliance has been dropped or the enclosure is damaged.



Conforms to
UL60065
Certified to
CAN/CSA
IEC60065

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 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 of or more of the following measures: reorient or relocate the receiving antenna; increase the separation between the equipment and receiver; connect the equipment into an outlet on a circuit different from that to which the receiver is connected, or consult the dealer or an experienced radio/TV technician for help. This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.



DMS-3.1

Digital Media Streamer

Installation Manual

Russound, Inc.
1 Forbes Road, Newmarket, NH 03857
tel 603.659.5170 • fax 603.659.5388
email: tech@russound.com www.russound.com

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