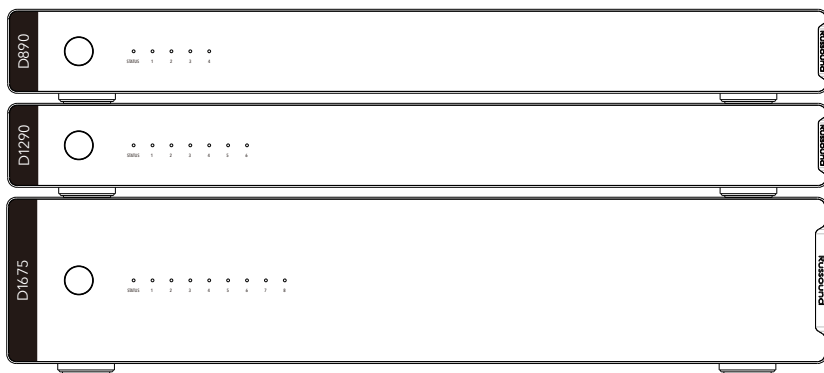


a sound relationship

Russound



D-SERIES MULTI-CHANNEL POWER AMPLIFIERS

D890, D1290, D1675

Designed for multi-room, home theater, and advanced audio systems

INSTALLATION GUIDE

The latest generation of multi-channel Class D digital amplifiers from Russound expand on Russound's 55+ year history of audio design, adding high performance to even the most demanding audio systems, with the flexibility, power, and quality needed to be the backbone of your favorite audio system for years to come.

WHAT'S IN THE BOX

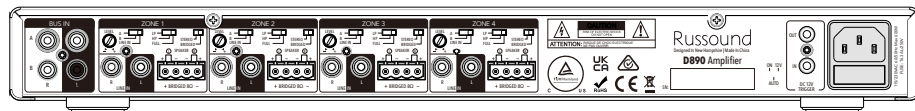
- 1 Russound Multi-Channel Amplifier
- 1 6-foot Power Cord
- 1 Set of Removable, Screw-Down 4-pin Speaker Connectors (accepts up to 14AWG wire) (4, 6, or 8 depending on model)
- 1 Set of Rack Mount Ears with Attachment Screws (Rack Mount Screws Not Included)
- 1 Owner's Manual

WHAT YOU NEED FOR THE INSTALLATION

- Flat 1/8" (3mm) mini-screwdriver for the speaker connectors
- #2 Phillips screwdriver for attaching the included rack mount ears
- Wire Strippers

MAKING THE CONNECTIONS

Note: All wiring connections must be made with the system powered off and the power cord disconnected from the electrical mains (unplugged from the wall outlet).



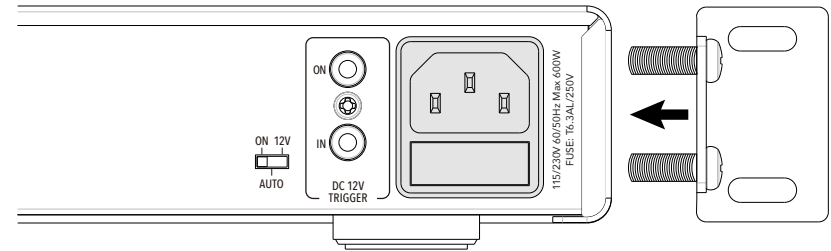
The D-Series Power Amplifier is very easy to install and only requires three connection types: audio source, power and loudspeakers.

Power is provided from the included 3-prong grounded electrical cord. The amplifier accepts AC power from 115-230V, 50/60Hz.

The amplifier may be placed on a shelf or installed into an equipment rack using the rack ears included within the box.

RACK MOUNTING

When installed in a rack, the four mounting feet on the bottom of the chassis may be removed if needed. Save the feet in case the amplifier is ever moved back to a shelf-mounted type of installation so that they may be re-attached. Do not use the amplifier on a shelf or other surface without the mounting feet being installed. They help provide ventilation space at the bottom of the amplifier. Leave at least 2" (5cm) of clearance around the amplifier for ventilation.



CONNECTING LOUDSPEAKERS

Loudspeakers will always connect directly to the D-Series amplifiers unless a separate impedance matching volume control, speaker selector or similar device is required (all sold separately). CL2 rated wire must be used when running wire within a home's walls. The loudspeaker connectors are designed to use up to 14ga wire.

Model	Number of Channels	Minimum Impedance	Bridgeable (8 ohms only)	Max Number of 8-ohm Speakers Supported Per Channel	Max Number of 6-ohm Speakers Supported Per Channel	Max Number of 4-ohm Speakers Supported Per Channel
D890	8 (Organized into 4 zones)	2.66 Ohms	Yes	3	2	1
D1290	12 (Organized into 6 zones)	2.66 Ohms	Yes	3	2	1
D1675	16 (Organized into 6 zones)	2.66 Ohms	Yes	3	2	1

When connecting the loudspeaker wires, be sure to observe proper polarity. The positive and negative terminals on the Russound D-Series amplifier must correspond with the positive and negative terminals at both the left and right loudspeakers. This is also true of the power connections at the loudspeaker side of the connection.

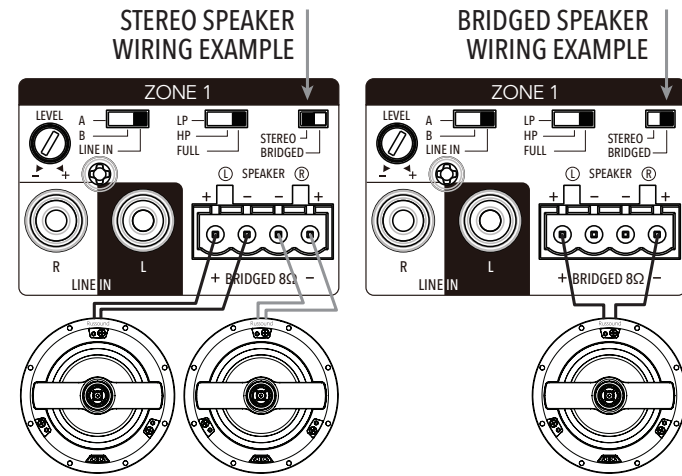
Strip 1/8" (about 3mm) from each of the conductors for both the left and right loudspeaker connections and insert them into the removable screw-down terminal, making sure to match the proper polarity of each connection. Tighten the screw-down connections securely and make sure that there are no exposed strands that might cause a short-circuit.

BRIDGING LOUDSPEAKER CONNECTION

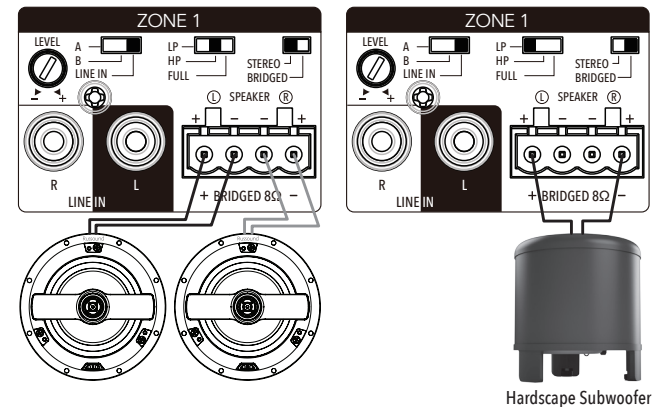
Please note that all wiring changes and changes to the settings switches on the rear of the Russound D-Series amplifier should be done with the amplifier powered off by removing the power cord from the rear of the amplifier.

The Russound D-Series amplifier includes a powerful feature called "Bridging". Bridging combines 2 adjacent output channels to form a single, higher power mono output. It is perfect for larger spaces, and especially for any outdoor audio zones where higher power is required.

BRIDGING LOUDSPEAKER CONNECTION

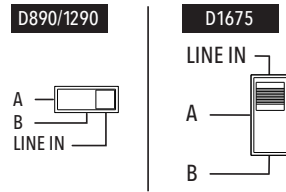


2.1 SOUND SYSTEM CONNECTION



INPUT SETTINGS

An easy-to-use slide switch is located on the rear of your D-Series amplifier for each zone.



The switch has 3 positions:

- A** – Setting the switch to this position will select Bus Input A as the audio source for this zone
- B** – Setting the switch to this position will select Bus Input B as the audio source for this zone
- Line In** – Setting the switch to this position will select the Zone Input as the audio source for this zone.

Make sure that the switch is set properly for your audio system. Setting this switch incorrectly will result in improper audio settings including lack of audio in any zone where the improper source is selected.

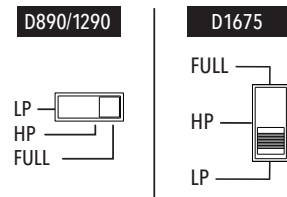
INPUT CONNECTIONS

Connect your input source(s) according to your installation needs. To share a source to multiple zone loudspeaker outputs, connect the source to one of the Bus Inputs, either A or B. Make sure to set the Input Setting for each loudspeaker output to the corresponding input, A or B. The Bus Input setting allows your D-Series amplifier to work in many flexible configurations such as sharing a single source in every zone, sharing up to 2 sources in any combination of zones, or even using unique sources for every zone of the amplifier.

OUTPUT FILTER SETTINGS

The Russound D-Series amplifiers have a powerful feature allowing their output signal to be attenuated specifically for the application of the loudspeakers.

The switch applies advanced audio filters that allow the output signal to be:



The wiring method for bridged connections is different from that of normal stereo pairs of loudspeakers. When bridging, only 8-ohm speakers may be used. At the bottom of each speaker connector on the rear of your Russound amplifier, you'll see the alternate wiring configuration for a bridged connection. One conductor of your loudspeaker wire will connect to the left-most position on the speaker connector, and the second conductor will connect to the right-most position as indicated. Please make sure to verify the polarity of the wiring, matching the amplifier connection to the loudspeaker connection.

Once the loudspeaker wiring has been configured, set the "Stereo/Bridged" slide switch to the right for "Bridged" operation.

CONNECTING AUDIO SOURCES

There are two input types on your Russound D-Series amplifier:

- Bus Inputs:** Two analog stereo inputs: A and B
- Zone Inputs:** One analog stereo input for each zone

BUS INPUTS

The bus inputs can be shared by any zone of the amplifier. Use one of the bus inputs if you want to share an audio source across more than one zone of the amplifier. For example, if you have an audio streamer such as the Russound MBX-PRE, connect its audio outputs to Bus Input A and you can then have the audio streamer's music played in any of the zones of the amplifier. With 2 Bus Inputs, your Russound amplifier can have 2 different audio sources that are shared among configured zones of the system.

ZONE INPUTS

The Zone Inputs are NOT shared to other zones of your Russound amplifier. Use these inputs for a zone-specific input. For example, if creating a whole-home audio system with an audio streamer for every room in the home, connect each audio streamer such as the Russound MBX-PRE to each Zone Input. By doing this, app or voice control of any audio system is easily implemented.

Use quality RCA cables and make sure all cables are fully attached and secured to the Russound D-Series amplifier.

Full Range “Full” – The entire audio signal is sent unfiltered to the connected loudspeakers, from 20Hz to 20,000Hz.

Low Pass “LP” – An advanced low-pass custom-designed filter is applied to the audio path for the zone. Use this setting when connecting a passive subwoofer to the zone. By combining this setting with a bridged zone, a powerful subwoofer can be added to any zone or to multiple zones of the amplifier. When configured for Low Pass, the frequency output is limited to 20Hz to 160Hz.

High Pass “HP” – An advanced high-pass custom-designed filter is applied to the audio path for the zone. Use this setting to avoid sending excessive low-frequency sounds to a loudspeaker that is not designed to handle them. By customizing these audio filters, you can custom tailor the audio of the installation to maximize the performance of the amplifier, the efficiency of your loudspeakers, and maximize the audio components of the system to best work together for their specific needs. When configured for High Pass, the frequency output is limited to 80Hz to 20kHz.

POWER CONNECTION

Once the source and loudspeaker connections have been made and the input setting, stereo/bridged mode setting, and output filter settings switches have been set, you can connect the power cable to the rear of amplifier.

FRONT PANEL POWER BUTTON

The Front Panel Power Button will toggle between “On” and “Standby” modes whenever the rear panel turn-on switch is set to Auto. If the rear panel switch is set to “ON” or “12V”, the front panel switch will have no effect because it is being overridden by the rear switch setting.

TRIGGER IN/OUT

The Trigger Input is used to turn on the D-Series amplifier, toggling between standby mode when no 12V signal is present and On mode when a 12V signal is present. This is very helpful for audio sources that have a low output signal or where discrete, dedicated control of the amplifier status is required.

The Trigger Output is activated when ANY of the D-Series amplifier’s zones is activated and powered on.

REAR PANEL SWITCH SETTINGS:

- ON- The Trigger Output will be active
- Auto – The Trigger Output will be active whenever any input signal is detected
- 12V – The Trigger Output will be active whenever there is a 12V input signal detected

TURN ON MODE

Your D-Series amplifiers has three turn-on modes:

ON – The D-Series amplifier is always on and ready to be used. The amplifier consumes more electricity in this mode.

12V – The D-Series amplifier will turn on whenever a 12V signal (~100mA) is detected at the DC 12V trigger “In” connection. When no 12V signal is present, the amplifier will enter standby mode after a brief delay and will consume less than 0.5W of electricity.

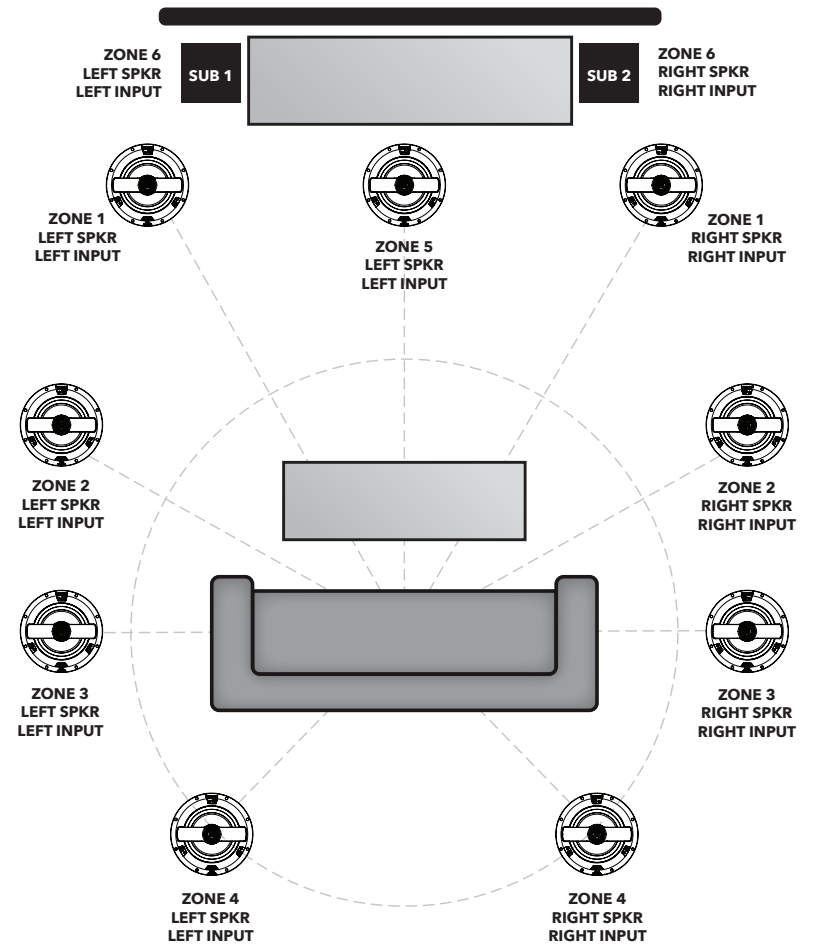
AUTO – The D-Series amplifier will automatically detect an input signal for each zone and will turn on when needed. When no signal is detected, the amplifier will enter standby mode after a delay of approximately 10 minutes. When in standby mode, it will consume less than 0.5W of electricity.

SPECIFICATIONS

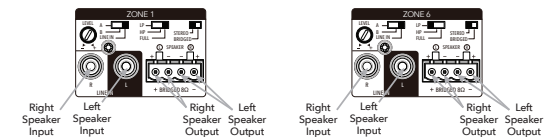
	D890	D1290	D1675
Number of Channels	8	12	16
Bridgeable	Yes	Yes	Yes
Filter Options	High Pass, Low Pass, Full Range	High Pass, Low Pass, Full Range	High Pass, Low Pass, Full Range
Power Output			
4 ohm	90W /Channel, 1kHz One Zone Driven	90W /Channel, 1kHz One Zone Driven	75W /Channel, 1kHz One Zone Driven
8 ohm	45W /Channel, 1kHz One Zone Driven	45W /Channel, 1kHz	37W /Channel, 1kHz One Zone Driven
8 ohm - Bridged	180W, 1kHz, One Zone Driven	180W, 1kHz, One Zone Driven	150W, 1kHz, One Zone Driven
2 ohm - Stereo	135W, 1kHz, Two Zones Driven	135W, 1kHz, Two Zones Driven	125W, 1kHz, Two Zones Driven

	D890	D1290	D1675
Freq Response			
Full Range Mode	20Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms	20Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms	20Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms
Low Pass (LP) Mode	20Hz to 160Hz +/-3dB at 1W output into 4 or 8 Ohms	20Hz to 160Hz +/-3dB at 1W output into 4 or 8 Ohms	20Hz to 160Hz +/-3dB at 1W output into 4 or 8 Ohms
High Pass (HP) Mode	80Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms	80Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms	80Hz to 20kHz +/-3dB at 1W output into 4 or 8 Ohms
Input Sensitivity			
4 ohm, One Zone	620 mV for 90W @ 1kHz	620 mV for 90W @ 1kHz	620 mV for 75W @ 1kHz
8 ohm, One Zone	690 mV for 45W @ 1kHz	690 mV for 45W @ 1kHz	690 mV for 37W @ 1kHz
Other Specifications			
Input Impedance	>22k ohms Line Input	>22k ohms Line Input	>22k ohms Line Input
Signal to Noise Ratio	>90dB A-weighted	>90dB A-weighted	>90dB A-weighted
Trigger Input	12V, Global	12V, Global	12V, Global
Trigger Output	12V, Global	12V, Global	12V, Global
Volume Gain Adjustment	By Zone	By Zone	By Zone
Line Inputs	Selectable: Bus A, Bus B, Zone	Selectable: Bus A, Bus B, Zone	Selectable: Bus A, Bus B, Zone
Speaker Connectors	Detachable Screw-down, up to 14AWG	Detachable Screw-down, up to 14AWG	Detachable Screw-down, up to 14AWG
Operating Temperature	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)	32°F to 104°F (0°C to 40°C)
Altitude	0 to 9,843' (3,000m)	0 to 9,843' (3,000m)	0 to 9,843' (3,000m)
Power Requirements			
North American Model	115-120VAC, 60Hz (600W Max)	115-120VAC, 60Hz (800W Max)	100-240VAC 60/50Hz (1000W Max)
International Model (-i)	220-230VAC, 50Hz (600W Max)	220-230VAC, 50Hz (800W Max)	100-240VAC 60/50Hz (1000W Max)
Fuse Rating			
North American Model	6.3A, 250V FA	10A, 250V FA	10A, 250V FA
International Model (-i)	6.3A, 250V FA	10A, 250V FA	10A, 250V FA
Power Connector	IEC C14	IEC C14	IEC C14
Standby Power Consumption	0.3W	0.3W	0.3W
Product Dimensions	17.125"(W) x 1.75"(H) x 9.75"(D) (43.5 x 4.4 x 24.8 cm)	17.125"(W) x 1.75"(H) x 9.75"(D) (43.5 x 4.4 x 24.8 cm)	17.125"(W) x 3.5"(H) x 9.75"(D) (43.5 x 8.8 x 24.8 cm)
Product Weight	8.5 lbs (3.85 kg)	9 lbs (4.1 kg)	12.8 lbs (5.8 kg)
Shipping Dimensions	20.2"(W) x 4.9" (H) x 14.3" (D) (51.33 x 12.5 x 36.3 cm)	20.2"(W) x 4.9" (H) x 14.3" (D) (51.33 x 12.5 x 36.3 cm)	20.2"(W) x 6.7" (H) x 14.3" (D) (51.33 x 17 x 36.3 cm)
Limited Warranty	2 Years	2 Years	2 Years

Using the output from a home theater pre-amplifier, feed each of the 11 channels of audio output to your D1290. Here is one possible configuration:

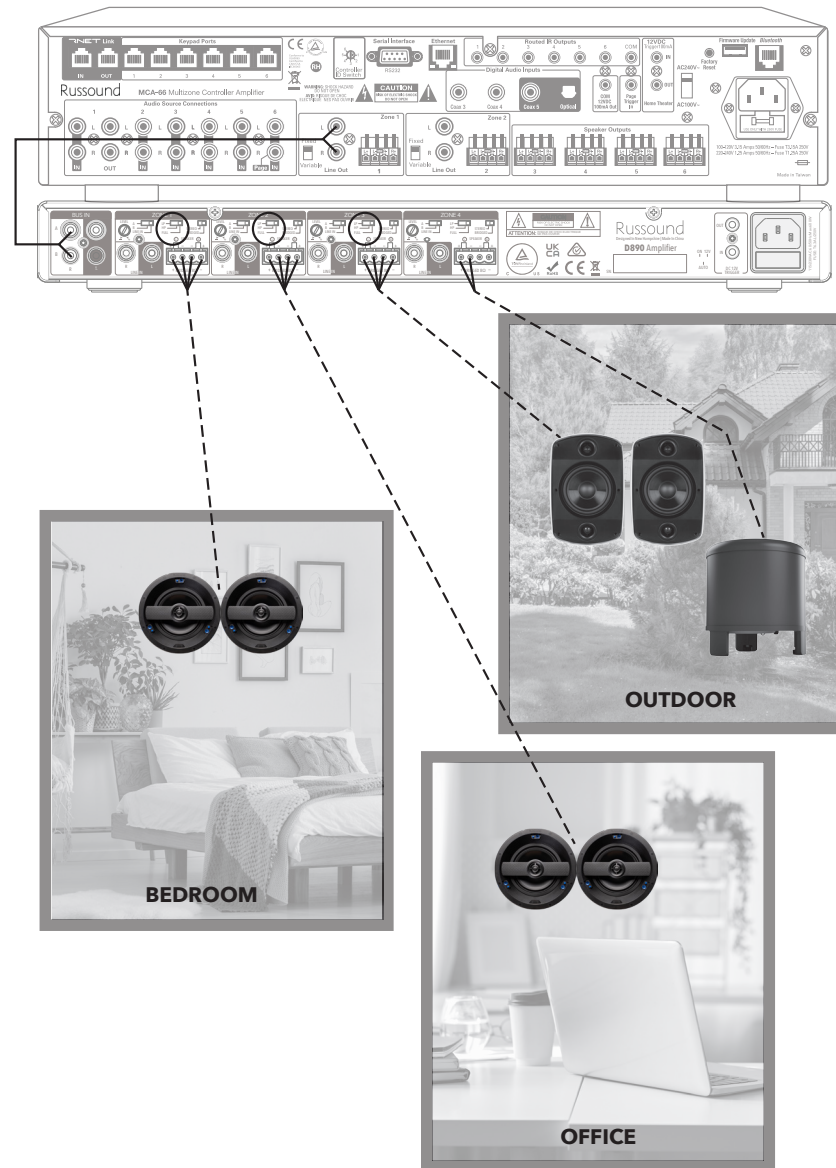
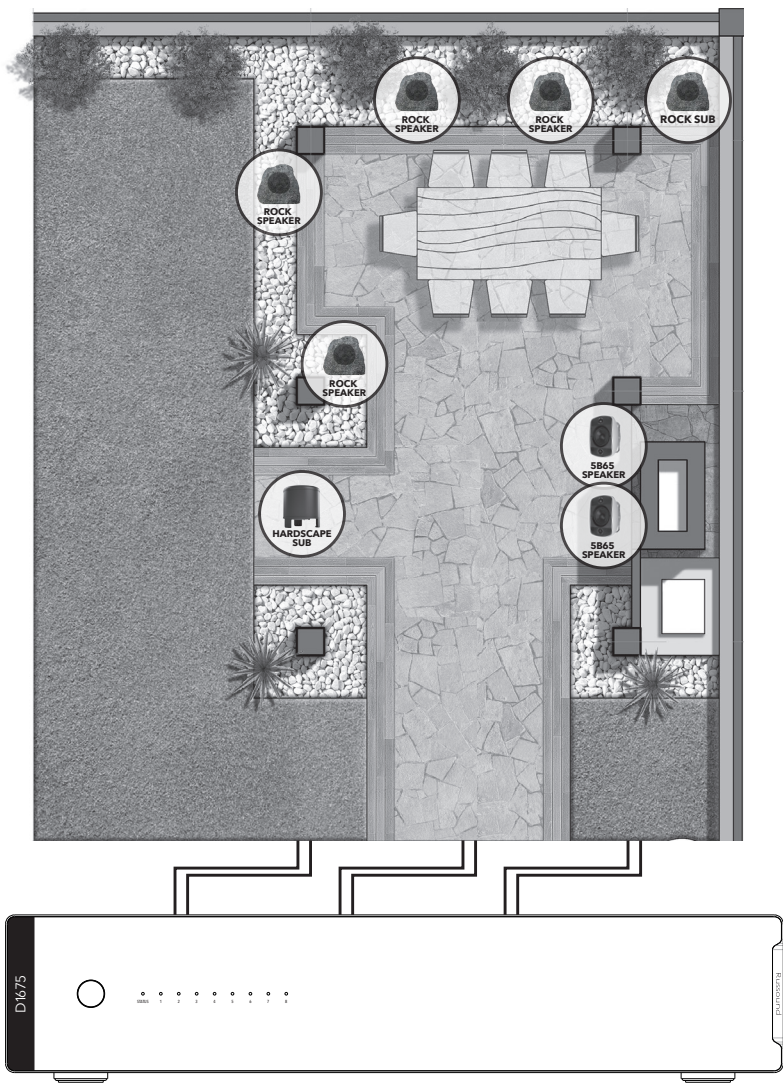


Zones 1-5 should be set for Full Range "Full"
Zone 6 should be set to Low Pass "LP"







LARGE OUTDOOR SYSTEM WITH THE D1675

Use to Add Extra Speakers to Any System





	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 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.

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 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. Location of the Amplifier - Do not mount this unit under a kitchen cabinet. Do not expose the amplifier to direct sunlight or heating units as the amplifier internal components' temperature may rise and shorten the life of the components.
16. Avoid damp and dusty places.
17. 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.
18. 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.
19. 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.



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