Product Weather Protection Overview

Loudspeakers

Category	Series	Reference	IP Rating	UV Rating	Environmental Reliability Test
Line Array	RL	RL15、RL15i、RL1、RL2、RL2i、RL3、RL3i、RL4	55	2	—
Augmented Array	V	V10、V30	55	2	—
Point Source	RA	RA5、RA8、RA10RA12、RA15	55	2	—
	K	K1、K2、K3	55	2	—
	RX	RX8、RX12、RX14	55	2	—
Subwoofer	FS	FS3、FS4	55	2	—
	K	K18、K218	55	2	—
	B	B8、B18、B218	55	2	—
	GS	GS218	55	2	—
	QS	QS218	55	2	—
Column Speaker	R	R8、R16	55	2	—
Stage Monitor	M	M1	55	2	—

Note: "—" indicates that the product has not been submitted to Environmental Reliability Test yet.

Digital Amplifiers

Series	Reference	IP Rating
R	R1, R2	IP20
RA	RA1, RA2, RA3	IP20
Y	Y1, Y2	IP20

Our product ratings are based on the following national standard for enclosure protection ratings

GB/T 4208-2017《Degrees of Protection Provided by Enclosures (IP Code)》

The IP code uses two digits to describe a loudspeaker's protection against solid foreign objects and water.

- First digit (dust-resistant):For IP5X, the first digit "5" indicates that the enclosure is dust-resistant. Dust ingress is not completely prevented, but the amount of dust entering the enclosure is insufficient to affect normal operation.
- Second digit (water-resistant): For IPX5, the second digit "5" indicates protection against water jets.
- Test condition note: The enclosure protection rating is determined with the enclosure in its standard operating orientation.

Different IP ratings provide different levels of protection for different applications：

IP20

The second digit "**5**" indicates **protection against water jets**. Water projected against the enclosure from any direction through a **6.3 mm** nozzle for **at least 3 minutes** must not cause harmful effects. This level of protection is suitable for outdoor applications exposed to rain, washdown, and splashing, including open-air performances and stadiums.

IP20

The second digit "**0**" indicates that the enclosure provides **no protection against water ingress**. Liquid entering the enclosure may damage the equipment.It is intended only for dry, protected indoor environments, where contact with liquids must be strictly avoided. It is commonly found on amplifiers installed in equipment racks (such as REYN AUDIO R series, Y series, and RA series amplifiers), mixing consoles, and other backstage equipment.

UV Rating is evaluated in accordance with GB/T 23987-2009 and rated according to GB/T 9761-2008.

· GB/T 9761-2008 specifies a visual comparison method for the color of paints and related coating products.

Grade definition: Color difference is rated on a scale of **0 to 5**, with higher grades indicating more noticeable color changes:

Grade 0: No visible difference.

Grade 1: Barely perceptible difference.

Grade 2: Clearly perceptible slight difference.

Grade 3: Moderate difference.

Grade 4: Considerable difference.

Grade 5: Very significant difference

· Grade interpretation: REYN AUDIO loudspeakers achieve **Grade 2**. At this grade, prolonged exposure to direct sunlight may result in slight but visible fading of the enclosure coating. The coating nevertheless provides resistance to UV-induced aging, chalking, and severe color distortion.

Environmental Reliability Testing

This testing is used to evaluate the long-term outdoor durability of specific loudspeaker models. During loudspeaker development, REYN AUDIO conducts targeted environmental reliability tests to evaluate long-term durability under extreme temperature, humidity, solar radiation, and corrosive conditions. The tests are described below:

High-Temperature Storage

The product is stabilized and stored at **+70°C (158°F)** to evaluate the heat-aging resistance and structural stability of materials such as plastics, adhesives, and coatings.

Low-Temperature Storage

The product is stabilized and stored at **−40°C (−40°F)** to evaluate material embrittlement, shrinkage, and internal stress changes, ensuring that components do not crack or fail.

Low-Temperature Operation

The equipment is started and operated at **−20°C (−4°F)** to verify the functional reliability of electronic components, diaphragms, and other dynamic components under extremely cold conditions.

Damp Heat Cycling

The product is sealed in a chamber and subjected to **5 days** of cyclic damp-heat exposure at **95% RH**, with temperatures ranging from **30°C (86°F)** to **60°C (140°F)**.

Solar Radiation

Prolonged exposure to direct sunlight is simulated by continuously irradiating samples with high-intensity UV light at **50°C (122°F)**. Exterior coatings and grille fabric are evaluated to ensure that their UV-aging resistance meets design requirements.

Salt Spray Testing

The product is exposed to a **5% sodium chloride** salt spray in accordance with GB/T 10125-2021 for **48 hours** to evaluate the corrosion resistance of exposed metal components, such as mounting hardware, connector housings, and grille fasteners. This is a key durability test for equipment used in coastal or de-icing-salt environments.

Standard Weather Protection Features

All REYN AUDIO loudspeakers are built with carefully selected materials and engineered construction for reliable environmental resistance.

Enclosure	Constructed from birch plywood, combining high strength with excellent resistance to moisture-induced deformation. The exterior is finished with a premium polyurea wear-resistant coating that forms a flexible protective layer with resistance to abrasion, impact, moisture, and corrosion.
Rear Surface of Front Grille	The rear surface of the front grille features acoustically transparent, water-resistant fabric treated with a hydrophobic finish. It helps prevent water, moisture, and dust from entering the enclosure while preserving acoustic transparency for clean, uncompromised sound.
Rigging Hardware	Rigging points, handles, and mounting brackets feature an integrated stainless-steel and aluminum-magnesium-alloy construction with passivation treatment, providing excellent corrosion resistance and mechanical strength under load and frequent use.
Rigging Hardware	Compliance with GB 4943.1-2022 helps limit flame propagation and enhance safety in fixed-installation applications.

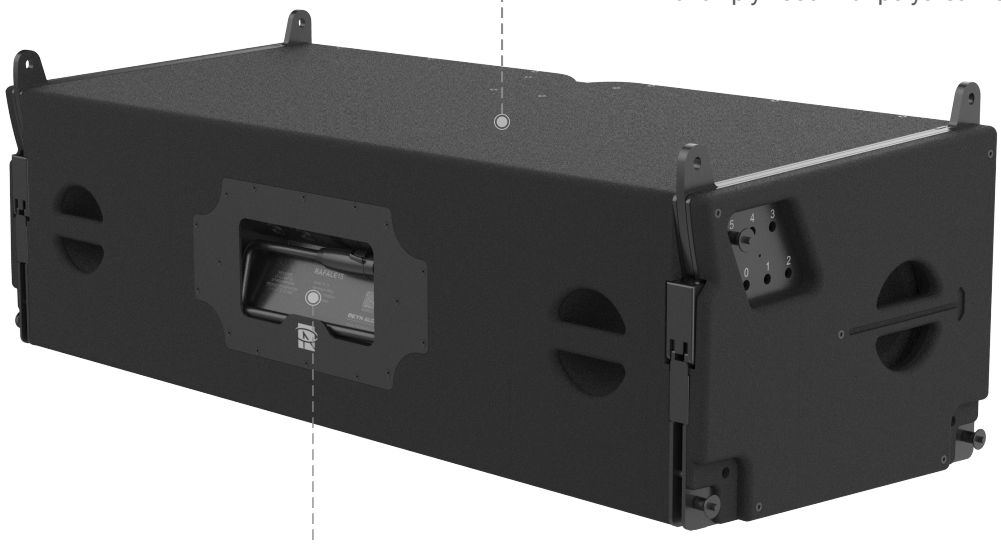
Rigging Hardware
High-grade stainless steel with specialized outdoor powder coating

Component
Water-resistant coating on both sides

Rear Surface of Front Grille
Acoustically transparent, water-resistant fabric

Front Grille
Rigid metal grille

Enclosure
All-birch plywood with polyurea wear-resistant finish



Terminal Plate
Black textured powder coating

General Atmospheric Considerations

In general, adverse atmospheric conditions can affect loudspeaker performance and durability. REYN AUDIO loudspeakers can deliver optimal performance under the following static or variable operating conditions:

- Temperature: 20℃ / 68°F
- Humidity: 70% RH

At extremely low temperatures (**below 0°C**), it is recommended to start at a lower level and gradually increase this level. For permanent installations where temperatures are very low for a long period, it is recommended to operate loudspeakers at a very low level continuously to maintain components in proper conditions and ensure durability.

At extremely high temperatures (**above 35°C**), it is recommended not to operate the loudspeakers continuously at limiting levels.

Referenced Standards

GB/T 9846-2015 Plywood — Bonding quality and durability. Specifications for the quality and inspection of ordinary plywood; classification into Class I (weather-resistant, boiling-water-resistant), Class II (water-resistant), and Class III (non-moisture-resistant).

GB/T 1733-1993 Adhesives — Evaluation of the water resistance of adhesive films and their stability in humid environments.

GB/T 2423.1-2008 Environmental testing for electric and electronic products — Part 2: Test methods — Test A: Cold.

GB/T 2423.2-2008 Environmental testing for electric and electronic products — Part 2: Test methods — Test B: Dry heat.

GB/T 2423.3-2008 Environmental testing for electric and electronic products — Part 2: Test methods — Test Cab: Damp heat, steady state.

GB/T 10125-2021 Corrosion tests in artificial atmospheres — Salt spray tests.

GB/T 23987-2009 Paints and varnishes — Artificial weathering and exposure — Exposure to fluorescent UV radiation and water.

GB/T 9761-2008 Paints and varnishes — Visual comparison of the color of paints.

GB/T 4208-2017 Degrees of protection provided by enclosures (IP Code).

GB 50017-2017 Foundational standard for structural steel design; the core reference governing the load-bearing safety of steel structures.

