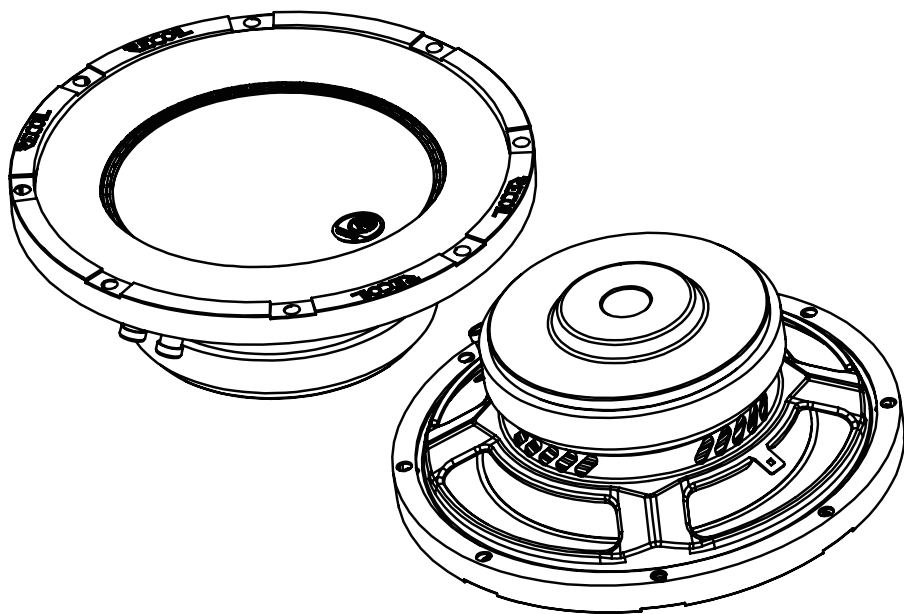


RED STORM SERIES

# RECOIL<sup>®</sup>



**RSW8D2/RSW8D4**

**RSW10D2/RSW10D4**

**RSW12D2/RSW12D4**

Red Storm Series Subwoofer 8/10/12-inch

## User Manual

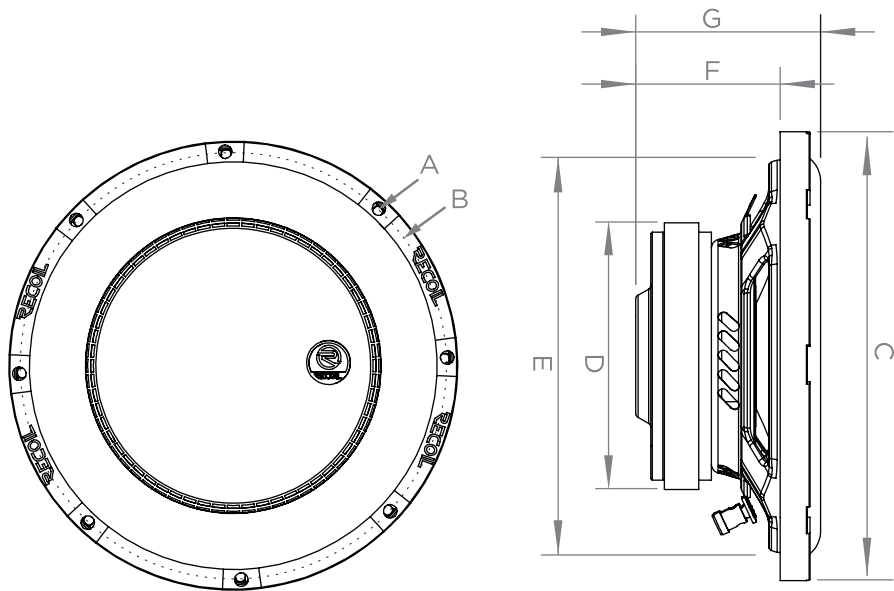
INSTALLATION:

Congratulations on your purchase of our product! We hope RECOIL AUDIO will delight you with its impressive performance. In producing our speakers, we utilize high-quality components and cutting-edge materials. This manual contains essential instructions for proper system installation and use. Before installation, please carefully review all guidelines provided. Failure to follow these instructions may result in product damage or unintended malfunctions.

SPECIFICATIONS:

| Item                      | RSW8D2<br>RSW8D4 | RSW10D2<br>RSW10D4 | RSW12D2<br>RSW12D4 |
|---------------------------|------------------|--------------------|--------------------|
| Size(Inch)                | 8                | 10                 | 12                 |
| RMS Power(W)              | 200              | 250                | 300                |
| Max Power(W)              | 400              | 500                | 600                |
| Peak Power(W)             | 800              | 1000               | 1200               |
| Nominal Re ( Ω)           | 2/4              | 2/4                | 2/4                |
| Minimum Re ( Ω)           | 2.2/3.6          | 2.2/3.6            | 2.2/3.6            |
| Sensitivity (1W/M)        | 84 dB            | 86 dB              | 87 dB              |
| Frequency Range (Hz)      | 48-800           | 43-600             | 34-500             |
| Voice Coil Diameter(Inch) | 2                | 2                  | 2                  |
| Cone Material             | Glass Fiber      |                    |                    |
| Suspension Material       | Foam             |                    |                    |
| Coil Material             | ASV              |                    |                    |
| Ferrite Magnet (OZ)       | 35               | 55                 | 55                 |

DIMENSION:



| Item | RSW8D2<br>RSW8D4 | RSW10D2<br>RSW10D4 | RSW12D2<br>RSW12D4 |
|------|------------------|--------------------|--------------------|
| A    | 8-φ5             | 8-φ5.5             | 8-φ5.5             |
| B    | φ198             | φ248               | φ297               |
| C    | φ214             | φ262.5             | φ314               |
| D    | φ128             | φ145               | φ158               |
| E    | φ180             | φ232.5             | φ275               |
| F    | 74               | 84.5               | 96                 |
| G    | 96               | 108                | 120                |

(mm)

\* A denotes mounting holes: 8-φ5/φ5.5 means 8 holes of 5/5.5 mm diameter.

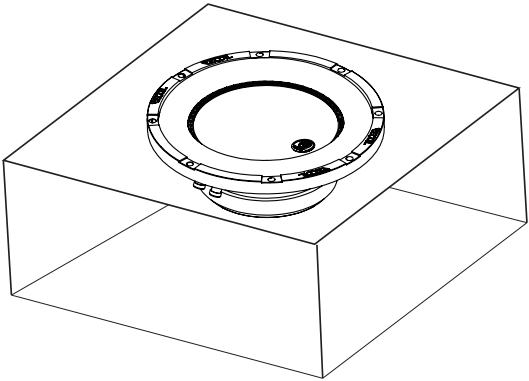
T/S PARAMETERS:

| Item       | RSW8D2 | RSW8D4 | RSW10D2 | RSW10D4 | RSW12D2 | RSW12D4 |
|------------|--------|--------|---------|---------|---------|---------|
| Fs (Hz)    | 48     | 56     | 43      | 39      | 34      | 32      |
| Re (ohm)   | 1.1    | 1.8    | 1.1     | 1.8     | 1.1     | 1.8     |
| Qes        | 0.6    | 0.95   | 0.46    | 0.65    | 0.48    | 0.67    |
| Qms        | 3.58   | 4.39   | 4.53    | 4.91    | 3.57    | 4.48    |
| Qts        | 0.51   | 0.78   | 0.42    | 0.57    | 0.42    | 0.58    |
| Vas (L)    | 7.3    | 7.0    | 16.5    | 26.3    | 41.2    | 54.4    |
| Sd (cm2)   | 208.6  | 208.6  | 333.2   | 333.2   | 514.7   | 514.7   |
| X max (mm) | 9.5    | 9.5    | 11      | 11      | 11      | 11      |
| Mms (g)    | 91     | 66.8   | 125.5   | 99.2    | 198.1   | 170.3   |
| Bl (Tm)    | 7.0    | 7.0    | 9.0     | 8.6     | 9.8     | 10.1    |
| No (%)     | 0.13   | 0.13   | 0.28    | 0.23    | 0.32    | 0.27    |
| CMS (uM/N) | 119.4  | 116.7  | 104.6   | 166.8   | 109.6   | 140.3   |

\*\*\* All T/S parameters listed in this table are measured with the dual voice coils wired in parallel. Due to normal manufacturing tolerances, slight variations may occur between different production batches.

ENCLOSURE CONSTRUCTION GUIDELINES

Sealed:



|                        | RSW8D2<br>RSW8D4 | RSW10D2<br>RSW10D4 | RSW12D2<br>RSW12D4 |
|------------------------|------------------|--------------------|--------------------|
| L (mm/in.)             | 230/9            | 310/12.2           | 380/15             |
| W (mm/in.)             | 230/9            | 290/11.4           | 350/13.8           |
| H (mm/in.)             | 180/7.1          | 220/8.7            | 280/11             |
| MDF Thickness (mm/in.) | 18/0.7           | 18/0.7             | 18/0.7             |
| MAX POWER(W)           | 400              | 500                | 600                |
| Vb (L/Ft³ )            | 9.5/0.34         | 19/0.67            | 37/1.31            |

**IMPORTANT:**

The enclosure dimensions (L × W × H) provided in the table are internal net dimensions. The driver displacement has already been deducted from the net volume (Vb). When cutting the wood panels, remember to add 2 × MDF thickness to each external dimension. For 18 mm MDF, for example, the external dimensions become (L + 36) × (W + 36) × (H + 36) mm.

To achieve the best bass performance and longevity of your subwoofer, please follow these construction tips:

**Material:** Use at least 18 mm (3/4" ) MDF or high-quality plywood. Denser materials reduce unwanted panel resonance.

**Damping:** Line the inner walls with polyester fibre stuffing (or similar acoustic wool) in a fluffy, uncompressed state. Recommended fill ratios:

RSW8D2/RSW8D4: 70-80% of net volume

RSW10D2/RSW10D4: 60-70%

RSW12D2/RSW12D4: 50-60%

Adjust the amount by ear; more filling slightly increases the apparent cabinet volume and tightens the bass.

**Sealing:** All joints must be airtight. Use wood glue and apply silicone sealant along internal seams. A leaky enclosure will destroy low-frequency definition and reduce power handling.

**Mounting:** Pre-drill screw holes to avoid splitting the MDF. Use a foam gasket or sealant ring between the driver frame and the baffle to ensure an air-tight seal.

## DUAL VOICE COIL WIRING INSTRUCTIONS

Your subwoofer is equipped with dual voice coils (D2 or D4 version). This allows flexible impedance matching to your amplifier. Choose the wiring method that best suits your amplifier’s minimum load capability and your desired power output.

| Wiring Method | Connection                                                                                                                             | Resulting Impedance  | Application                                                                                                          |
|---------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------------|----------------------------------------------------------------------------------------------------------------------|
| Parallel      | Connect both positive terminals together, and both negative terminals together                                                         | D2 → 1 Ω<br>D4 → 2 Ω | Maximum power output from the amplifier. Only use if your amplifier is rated stable at 1 Ω (for D2) or 2 Ω (for D4). |
| Series        | Connect the positive of one coil to the negative of the other coil. The remaining positive and negative terminals go to the amplifier. | D2 → 4 Ω<br>D4 → 8 Ω | Higher impedance, lower distortion, safer for amplifiers not designed for low-impedance loads.                       |

**IMPORTANT:**

Never connect only one voice coil while leaving the other unconnected – this will overload the active coil and may cause thermal damage.

Ensure both coils have identical polarity. Incorrect polarity will cancel bass output and may damage the driver.

If you are unsure about your amplifier’s capabilities, consult your amplifier’s manual or contact a professional installer.

## SAFETY WARNINGS

Please read and observe the following safety instructions to prevent personal injury, property damage, or product failure.

**Power Handling:**

The RMS (continuous) power ratings for these subwoofers are:

8-inch models: 200 W

10-inch models: 250 W

12-inch models: 300 W

The values listed as “MAX POWER” or “PEAK POWER” in this manual represent momentary or recommended amplifier upper limits and do not represent sustained operating limits. Continuous operation above RMS ratings will overheat the voice coil and cause permanent damage not covered under warranty.

**Amplifier Matching:**

We recommend using an amplifier with an RMS output of 1.2 to 1.5 times the subwoofer's RMS power rating (at the selected impedance). This headroom ensures clean, undistorted signals. An underpowered amplifier that clips can be more damaging than an overpowered one.

**Subsonic Filter:**

For sealed enclosures, use a high-pass filter (subsonic filter) set around 30-40 Hz (12 dB/octave or steeper) to protect the driver from excessive excursion at very low frequencies, especially when playing demanding program material at high volumes.

**Enclosure Stability:**

Ensure the finished enclosure is placed on a stable surface and properly secured (e.g., in a vehicle). Sudden movement or tipping can cause serious injury or damage.

**Environmental Conditions:**

Do not expose the subwoofer to moisture, rain, direct sunlight, or extreme temperatures. Keep the speaker terminals and connections dry and clean.

**Installation:**

All electrical connections should be made with the amplifier turned off. Use appropriate gauge wires for power and speaker connections. If you are not confident in performing the installation, seek help from a qualified technician.

**Listening Levels:**

Prolonged exposure to high sound pressure levels can cause permanent hearing loss. Use common sense and moderate volume levels.



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