AVTools System Designer (Standard)

Version 1.2.1 – Quick Start & Notes

Thank you for downloading **AVTools System Designer** by J. Stevens BIM Acoustics. This Revit add-in is designed to accelerate distributed ceiling loudspeaker layout while keeping engineering intent clear, deterministic, and transparent.

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1. Installation

1. Unzip the downloaded file.

2. Run the installer (.msi).

3. If Windows shows a SmartScreen warning:
   • Click **More info → Run anyway**

4. Launch Autodesk Revit (2022–2026 supported).

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2. Where to Find the Tool in Revit

Once Revit is open:

1. Click the **BIM Acoustics** tab in the top ribbon.

2. Locate the **AVTools** panel.

3. Click **System Designer** to launch.

Recommended:
Start with the project open to a **Floor Plan** or **Reflected Ceiling Plan (RCP)** view for the level you want to work on.

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3. Placement Views vs Mapping Views (Important)

System Designer uses two different view contexts:

Loudspeaker Placement

• Loudspeakers are placed ceiling-hosted in the model
• Placement is typically reviewed and coordinated in an **RCP**

Coverage Mapping

• Coverage maps (ISO-line visualization) are drawn in the **Floor Plan** view associated with that level

Common workflow:

1. Review and adjust placement in the RCP

2. Switch to the Floor Plan to review coverage maps and results

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4. First Use & Project Setup (Important)

On first use in a project, System Designer will:

• Install a small set of **JSBA project parameters**
• Create a **JSBA Control Data** schedule

⚠ **Do not delete or manually edit the original JSBA-generated schedule.**
This schedule is the internal record the add-in uses to track placed loudspeakers.

Using the Schedule for Documentation (Recommended)

You are encouraged to:

• Duplicate the JSBA-generated schedule
• Modify the duplicate freely:

- Add or remove columns

- Change formatting

- Place on sheets

- Use in reports

Leave the original JSBA schedule unchanged so the add-in can continue managing placement updates.

5. How Placement Updates Work (By Design)

System Designer is deterministic, but flexible:

Each time you change inputs and re-run placement:

• Loudspeakers previously placed by the tool are removed
• New loudspeakers are placed based on updated calculations

Manual Coordination is Expected

After placement, it is normal and expected to:

• Center loudspeakers in corridors
• Align with ceiling grids
• Coordinate with lights, sprinklers, diffusers, etc.
• Remove individual loudspeakers where coverage is not required

These adjustments are part of real-world coordination and are fully supported.

Adding Additional Loudspeakers (Important)

If you need more loudspeakers than the tool placed:

**Recommended:** copy/paste an existing tool-placed loudspeaker.

This preserves internal tracking and allows future recalculation.

Avoid manually loading unrelated families if you want devices included in future updates.

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6. Coverage Maps & Results

System Designer generates first-order direct-field coverage maps:

• Maps are drawn in the Floor Plan view
• Results are referenced to **P95 (room reference level)**
• Intended for early design validation — not final acoustic prediction

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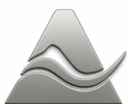
7. Tile Centering & Linked Models (v1.2.1)

Version 1.2.1 includes:

- Improved tile-centering reliability
- Stable performance in linked-model workflows
- Multi-category schedule handling
- Revit 2026 API compatibility updates

Note:
Tile centering requires Revit 2025.3 or higher.

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8. Project-Unit-Aware Reporting (v1.2.1)

Column headers and numeric reporting now automatically reflect the active Revit project length units:

- Imperial (ft / ft^2 / ft^3)
- Metric (mm / m^2 / m^3)

System Designer reads the project's unit settings and formats reporting accordingly.

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9. Lucius AI Assistant (Built In)

Lucius is integrated into System Designer to help you:

- Understand spacing models
- Interpret coverage and overlap intent
- Navigate workflow step-by-step

Transcript Opt-In (Optional)

You may opt in to anonymous transcript capture:

- No project geometry or identifying information is collected
- Used only to improve Lucius responses
- Can be changed at any time in the About tab

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10. Trial & Licensing

- The 10-day trial begins on first use
- Subscription options are available from the About tab
- After subscribing, enter your email and click **Validate Now**

11. Support & Feedback

Support email:
support@bimacoustics.net

When reporting an issue, please include:

• Revit version
• Active view (RCP vs Floor Plan)
• Steps performed
• Log bundle (available from the About tab)

Thank you for being an early user.
Your feedback directly shapes future versions.

— Jerrold Stevens
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