



Connection procedure

REL SUBWOOFER WITH BILLIE, BALANCED CLASS D AMPLIFIER

This guide explains how to connect a REL subwoofer to the Billie using the REL Speakon high-level connection, with the precautions required for a balanced / non-ground-referenced Class D power stage.

WARNING

- Read all instructions carefully before attempting to connect the REL subwoofer to a balanced Class D amplifier.
- This guide applies only to REL subwoofers equipped with a REL Speakon high-level cable.
- It does not apply to subwoofers without a Speakon cable, modified cables, non-REL adapters, or LFE/RCA connections used on their own.
- Never connect the black REL wire to a negative speaker terminal on the Billie .
- On a balanced Class D amplifier, the negative speaker terminals are not ground. They must not be used as a ground reference for the subwoofer.
- An incorrect connection may cause noise, unstable behavior, or damage the equipment.
- Heaven 11 Audio accepts no responsibility for any mishandling, incorrect connection, cable modification, improper installation, or resulting damage.
- Damage caused by incorrect connection is not covered by the warranty.

REL wire	Function	Connection with Billie
Red	Right channel +	Right speaker terminal +
Yellow	Left channel +	Left speaker terminal +
Black	Ground / reference	Do not connect to the negative speaker terminals
Black - recommended	Safe ground reference	Chassis ground / Billie ground post
Black - alternative	If there is noise or hum	Leave unconnected, well insulated

1. Recommended option: REL Speakon high-level connection

This method allows the sub to receive the same musical signal as the main speakers. This is the typical connection recommended by REL, with one important adaptation for balanced Class D amplifiers.

1.1 Turn off the entire system

1. Turn off the Billie using the main power switch.
2. Turn off the REL at the rear.
3. Turn off or put the sources into standby: streamer, DAC, player, computer, etc.
4. For maximum safety, unplug the AC power cords while wiring.

1.2 Identify the REL high-level cable

Cable side	Connection type
Sub side	Speakon connector
Amplifier side	Three wires: red, yellow, black

1.3 Connect the Speakon to the REL

1. Locate the HIGH LEVEL INPUT on the rear of the REL T/7x.
2. Insert the Speakon connector.
3. Turn it until it locks.
4. Do not force it: the connector should insert and then turn smoothly.

1.4 Connect the red and yellow wires to the Billie

REL wire	Connect to the Billie
Red	Right + terminal / right speaker positive
Yellow	Left + terminal / left speaker positive

The red and yellow wires can be connected to the same place as the corresponding speaker cables.

Billie terminal	Connection
Right +	Right speaker cable + and red REL wire
Right -	Right speaker cable - only
Left +	Left speaker cable + and yellow REL wire
Left -	Left speaker cable - only

1.5 Handle the black wire correctly

On the Billie, the black REL wire must not go to the negative speaker terminals. These terminals are not ground.

REL wire	Recommended connection
Black	Billie ground post

Use the ground post normally provided for vinyl / phonostage use if available.

1.6 If you hear a hum

Test	Action
1	Black wire on the Billie ground post
2	Black wire unconnected, with the end well insulated
3	Use the REL low-level RCA input from the Billie PRE OUT instead

1.7 Connections to avoid

Incorrect connection	Why to avoid it
Black REL wire on Right -	Output not referenced to ground
Black REL wire on Left -	Output not referenced to ground
Black REL wire connected to both negative terminals	Higher risk of noise or unstable behavior
Black wire left bare without insulation	Risk of accidental short circuit

2. Check before powering on

Before turning on the system, take one minute to check each point. This step prevents most wiring errors.

Check	Expected result
Red REL	On Right +
Yellow REL	On Left +
Black REL	On ground post or insulated
Negative terminals	No REL wire touches them
Copper strands	No strand sticks out and touches another terminal
Speakon	Properly locked into the REL

3. System power-up

Step	Device
1	Sources
2	Billie
3	REL T/7x

Set the Billie volume fairly low at first. Then increase it gradually.

4. Starting settings for the REL T/7x

REL control	Starting setting
Volume / Gain	9 o'clock to 10 o'clock
Crossover	35 to 45 Hz
Phase	0°
Placement	Front corner of the room or near the speakers

The goal is not to hear the sub as a separate source. A good setting adds more foundation, weight, and space without drawing attention to the subwoofer.

4.1 Set the crossover

Speaker type	Starting crossover
Compact bookshelf	45 to 55 Hz
Bookshelf with good bass	35 to 45 Hz
Floorstander	28 to 40 Hz

With many hifi speakers, a REL set too high quickly becomes identifiable. You often need to set the crossover lower than you might think.

4.2 Set the phase

Use music with a clear, steady bass line. Compare 0° and 180° from the listening position.

Phase	What to listen for
0°	Fuller, more natural bass
180°	Bass sometimes stronger or better integrated depending on the room

Choose the setting that gives the fullest bass at the listening position, without boominess.

4.3 Fine-adjust the volume

- 1. Raise the REL volume until you can clearly hear it.
- 2. Lower it slightly until it disappears as a separate source.
- 3. Temporarily turn off the REL.
- 4. If the music becomes smaller, thinner, or less spacious, the setting is good.
- 5. If the bass disappears too strongly, the volume is probably too high.
- 6. If you hear no difference, the volume or crossover may be too low.

5. Alternative option: RCA connection from PRE OUT

If the high-level connection causes hum, or if you prefer a simpler method, use the Billie PRE OUT to the REL low-level input.

Billie	REL T/7x
PRE OUT L/R	REL LOW LEVEL INPUT / RCA

Depending on the inputs available on the REL, use an appropriate mono RCA cable or Y-cable.

Advantage	Detail
Simpler connection	No black wire management
Less risk with Class D	No link to the speaker outputs
Often quiet	May reduce hum problems

Limitation: the REL does not receive exactly the same signal as the speakers at the amplifier output. Some listeners therefore prefer high-level connection for a more natural integration.

6. Recommended connection summary

Element	Connection
REL Speakon	REL High Level input
Red REL wire	Billie Right +
Yellow REL wire	Billie Left +
Black REL wire	Billie ground post
Si hum	Try the black wire unconnected and insulated
If hum persists	Use RCA from PRE OUT
Never	Black REL wire on a negative speaker terminal

7. Short version / reminder

- Turn off the amplifier and the REL. Connect the Speakon connector to the REL High Level input.
- On the Billie side, connect the red REL cable wire to the Right + speaker terminal, and the yellow wire to the Left + terminal.
- Do not connect the black wire to the negative speaker terminals, because the Billie uses a balanced Class D stage whose negative outputs are not ground. Instead, connect the black wire to the Billie ground post.
- If you hear a hum, leave the black wire unconnected and well insulated.
- If the noise persists, use an RCA connection instead from the Billie PRE OUT to the REL low-level input.
- Start with the REL volume around 9-10 o'clock, the crossover around 35-45 Hz, and the phase at 0°, then adjust by ear.