WHAT IT IS

A convolution reverb built from real, measured places. Every room is a real impulse response from the OpenAIR library (Audiolab, University of York, CC BY 4.0): York Minster, St Paul's, the Hamilton Mausoleum, Maes Howe, Newgrange, a reactor hall, a railway tunnel, a mine. Two of them are reconstructions and are flagged MODELLED. The source stands on a stage inside the measured room, and in 3D the room plays as a measured sound field around it. Zero latency: the convolution runs in its zero-latency mode and reports 0 samples to the host.



Rendered by the plugin itself, offscreen — the real interface, not photographed in a DAW.

INSTALL (MACOS, AU + VST3, UNIVERSAL)

1 Unzip. 2 Copy CAIRN.component to ~/Library/Audio/Plug-Ins/Components/ and CAIRN.vst3 to ~/Library/Audio/Plug-Ins/VST3/. 3 Rescan plug-ins in your host (Ableton Live 12: Settings → Plug-Ins → Rescan).

First launch. If macOS says the developer cannot be verified: System Settings → Privacy & Security → Open Anyway, then rescan. **Ableton on Apple silicon:** if Live does not list CAIRN, check whether Live itself runs under Rosetta (Finder → Get Info on the Live app) and rescan after changing it.

CAIRN · Controls

CONTROL	WHAT IT DOES
ROOM	Click the name at the top: all the places, sorted by decay time, with photo and measured curve; arrows page through them while you play. FIELD NOTES (bottom) shows team, date, microphones, licence.
PRESET	Left of the room name: BROWSE, then ◂ NAME ▸ with a star. BROWSE or a click on the name opens the preset browser, the arrows step through the 28 factory presets, a right-click on the name opens the quick list. See pages 3 and 4.
THE DIAL	Outer ring: the measured decay with your live tail in green and a green T30 mark. Drag along the arc = DECAY. Eight handles on the inner ring = EQ (radial = gain, around the ring = frequency). The flower is the spectrum of the wet signal. Double-click the centre: EQ and decay back to the room as measured.
DECAY	0.25× to 4× the measured room. Below 1× an envelope shortens the tail; above 1× the tail is slowed and extended from its own last half second — no resampling, no pitch shift.
DRY / WET	0 to 100 %. The rooms are loudness-matched (page 4), so changing the room keeps the level close.
BLOOM	0 to 100 %. Eight slowly breathing allpasses on the wet signal — density in the first moment, movement in the tail. Lossless: the reverb time stays the measured one. 0 = exactly as recorded.
EQ 1–8	±12 dB, one octave wide, wet signal only. Default centres 63 Hz … 8 kHz; drag sideways to move a band between 40 Hz and 12 kHz (snaps to its octave).
RESONANCE	Amount and frequency (40–300 Hz) of a narrow boost at the room's own note (e.g. Maes Howe: 86 Hz, F2). The field shows the measured modes; the handle snaps to them.
PREDELAY	0 to 250 ms before the room.
RENDER	CLASSIC plays the stereo measurement. 3D SPEAKERS (default) and 3D HEADPHONES play the room as a measured sound field that turns with the source — the early reflections come from where the source is. HEADPHONES is binaural: headphones only. Rooms without a 3D measurement are spatialised from the stereo recording and say STEREO CAPTURE.
SOURCE · SPREAD	The green diamonds on the stage are your source (L and R of the input): drag them left, right, near, far; the wheel or SPREAD sets their distance; double-click centres them. Further away the dry signal gets quieter and softer.
FOLLOW	WET FOLLOW, last knob under the stage, 0–100 % (default off): how far the reverb travels with the source. Off: it stays where the room puts it and only leans towards the source. 100 %: the whole reverb, tail included, moves with the source — in 3D around your head, in CLASSIC as a narrower image.
STAGE	Drag the blue cloud around the listener: angle = AZIMUTH (−180…180°, all the way round), distance = SPACE (decorrelation — depth on headphones). The green dot is the real position. WIDTH 0 to 150 %.
HEIGHT · TILT	HEIGHT ±60°: the pinna notch moves from 4.8 to 10 kHz. TILT leans the orbit so the room rises on one side and sinks on the other.
SWING · ORBIT	ORBIT circles the room, one lap in 50…5 s. SWING narrows the path: full = lap, below = pendulum around the azimuth.
DUCK	Up to 24 dB; the reverb steps back while you play. DUCK FROM: the input or the sidechain bus (the plugin's second input).
OUTPUT	−24 to +24 dB on the wet signal only.
FREEZE	Holds the tail as a cloud — no echo, no drift. New notes fall into the cloud.
MORPH · ROOM B	Blend into a second room, power-matched. Room B costs nothing while MORPH is 0.
JOURNEY	Off, or 120 to 4 s per room: MORPH swings back and forth and the silent side takes the next room — by reverb time or catalogue order. Nothing jumps.
EARLY / LATE	Splits at 80 ms: −100 % keeps only the early reflections (the place), +100 % only the tail.
DENSITY	−100 % grainy (wide bloom echoes) to +100 % dense.

EVERYWHERE

Drag, mouse wheel, double-click for the default, Shift for fine. No keyboard shortcuts — the keyboard belongs to your DAW. The window snaps to 75 / 100 / 125 / 150 % by its corner. Two colour schemes (Cold Light, Amber) in the help panel (?), remembered between sessions. Every control is host automation (in Live: Configure on the device).

CAIRN · Presets

TWENTY-EIGHT FACTORY PRESETS

BROWSE (or a click on the name) opens the browser over the device: ALL, ★ STARRED and BY SOUND in the sections below, a search that also finds rooms and places (“minster”), and one tile per preset showing the room’s decay as the preset really sets it. Click loads and keeps it open, double-click loads and closes, ESC closes. The star marks a favourite. Arrows ◂▸ step through the list, a right-click on the name opens the quick list. Hover over the preset name and the line at the bottom says in one sentence what it is for. A preset sets every parameter — nothing from the previous sound stays behind, not even FREEZE or JOURNEY. The same list is handed to your host as its program list (AU factory presets, VST3 programs). The presets are level-matched to each other, so browsing them compares sounds, not volume. After you turn a knob the header keeps the preset's name.

PRESET	ROOM	WHAT IT IS FOR
START		
Init - York Minster	York Minster	Everything at default: York Minster, 3D speakers, 35 % wet.
VOCALS		
Vocal Chapel	Heslington Church	Small Norman church, short and warm — sits behind a lead vocal without clouding it.
Vocal Plate Church	St Matthew's Walsall	A short church made dense and bright like a plate — the classic vocal sheen, from a real room.
Sidechain Duck Vocal	St Albans Lady Chapel	The reverb steps back while the singer sings and blooms in the gaps. Route a sidechain for pumping.
Cathedral Lead	St Paul's Cathedral	St Paul's, shortened and ducked — epic space around a lead without washing out the words.
DRUMS		
Drum Room	Hoffmann Lime Kiln	Brick kiln, early reflections forward — glue and size for a kit without a long tail.
Tight Stone Room	Maes Howe	A 5000-year-old chamber: hard, short and close. Room sound for close-miked drums.
Snare Cathedral	York Minster	The 80s gated-big snare, but from a real nave: send the snare alone.
Tunnel Slap	Innocent Railway Tunnel	Railway tunnel, early energy only — a slap and flutter for percussion and claps.
Kick-Safe Hall	R1 Reactor Hall	Big concrete hall with the low end removed and ducked — size on a full kit, kick stays dry.
INSTRUMENTS		
Guitar Room	St Andrew's Church	A village church for acoustic and clean electric guitar — wide, natural, not too long.
Tower Ambience	Clifford's Tower	Stone keep ambience for piano, strings and keys — the room around, not a tail behind.
Piano Hall	Tyndall Bruce Monument	Stone rotunda with an even decay — a concert-sized bloom for piano and solo instruments.

CAIRN · Presets

PRESET	ROOM	WHAT IT IS FOR
AMBIENT		
Pad Infinity	Hamilton Mausoleum	The longest echo in the world, stretched three times — an endless pad without freeze.
Endless Abbey	St Mary's Abbey	A modelled abbey, lengthened, slowly circling around you — for drones and textures.
Film Score Width	St Paul's Cathedral	Cathedral size for strings, brass and choirs — wide and deep, the score's back wall.
Reactor Drone	R1 Reactor Hall	A reactor hall singing its own note (E3) — tune your drone to it.
Pilgrimage	Maes Howe → York Minster	Journey on: the reverb travels through all the places, about 50 s per room.
Tomb to Nave	Maes Howe → York Minster	Morph halfway between a stone chamber and a cathedral — close attack, huge tail.
3D		
Headphone 3D Demo	York Minster	Headphones only: the measured nave rendered binaurally, slowly orbiting and tilting.
Behind You	Holy Trinity Goodramgate	Headphones: the room stands behind the listener — a narrow, haunting space.
Distant Stage	St Albans Lady Chapel	Speakers: the source moves 12 m into the chapel — far, soft, and in the room.
Nave Early Only	York Minster	Only the first 80 ms of York Minster: places a dry source in a big room without a tail.
CHARACTER		
Lo-Fi Cave	Creswell Crags	Ice-age cave, band-limited and grainy — a dusty, boxy reverb for beats and samples.
Mine Shaft	Gill Heads Mine	A lead mine, a long gap, then the rock answers — for sparse, cinematic hits.
Dungeon Tone	Bottle Dungeon	A bottle dungeon ringing at D2 — the room tone pushed up, eerie and tuned.
Neolithic Chamber	Newgrange	Newgrange: the tightest room here, a quarter second — a stone box around any sound.
Gorge Air	Troller's Gill	An open limestone gorge — a late slap off far rock, airy and outdoor. Space without a room.

LOUDNESS

Every room is loudness-matched with a music-like weighting (pink noise through the K-weighting filter of loudness metering, ITU-R BS.1770), in CLASSIC and in 3D alike. Switching rooms at the same DRY / WET keeps the level close, and at 100 % wet the reverb comes out, on average, about as loud as your signal. A room whose recording is very bass-heavy can still sound fuller than the rest. The factory presets carry their own small OUTPUT correction on top, so they sit level with each other.

CAIRN · The rooms

PLACE	WHERE	WHEN	T30	OWN NOTE	3D
St Mary's Abbey	York, England	reconstructed	15.05 s	147 Hz D3	MODELLED · 3D field
Hamilton Mausoleum	South Lanarkshire, Scotland	1842–1858	14.73 s	135 Hz C♯3	3D field
St Paul's Cathedral	London, England	1675–1710	9.44 s	85 Hz F2	from stereo
York Minster	York, England	13th–15th c.	7.98 s	150 Hz D3	3D field
R1 Reactor Hall	Stockholm, Sweden	1954	5.27 s	167 Hz E3	3D field
St George's Episcopal	Nashville, Tennessee, USA	not stated	2.69 s	74 Hz D2	from stereo
St Albans Lady Chapel	St Albans, England	1327	2.50 s	200 Hz G3	3D field
Clifford's Tower	York, England	13th c.	2.35 s	152 Hz D♯3	3D field
Bottle Dungeon	Fife, Scotland	15th c.	1.90 s	72 Hz D2	3D field
Tyndall Bruce Monument	Falkland, Scotland	1856	1.85 s	98 Hz G2	3D field
St Patrick's Patrington	East Yorkshire, England	14th c.	1.74 s	196 Hz G3	3D field
All Saints North Street	York, England	14th c.	1.74 s	65 Hz C2	from stereo
Tvisongur	Seyðisfjörður, Iceland	2012	1.68 s	150 Hz D3	MODELLED · from stereo
Innocent Railway Tunnel	Edinburgh, Scotland	1831	1.63 s	160 Hz D♯3	3D field
Heslington Church	York, England	11th c.	1.60 s	184 Hz F♯3	3D field
St Matthew's Walsall	Walsall, England	13th c.	1.47 s	157 Hz D♯3	from stereo
Creswell Crags	Derbyshire, England	Palaeolithic	1.38 s	125 Hz B2	3D field
St Andrew's Church	Lyddington, Rutland, England	medieval	1.37 s	125 Hz B2	3D field
Saint Lawrence Molenbeek	Molenbeek-Wersbeek, Belgium	not stated	1.37 s	129 Hz C3	from stereo
Holy Trinity Goodramgate	York, England	13th c.	1.07 s	172 Hz F3	3D field
Hoffmann Lime Kiln	Langcliffe, England	1873	0.96 s	75 Hz D2	3D field
Gill Heads Mine	Yorkshire Dales, England	until the 1980s	0.71 s	63 Hz B1	3D field
Maes Howe	Orkney, Scotland	3000 BC	0.54 s	86 Hz F2	3D field
Troller's Gill	Yorkshire Dales, England	Karst	0.36 s	107 Hz A2	3D field
Newgrange	County Meath, Ireland	3200 BC	0.25 s	—	3D field

All impulse responses: OpenAIR library (Audiolab, University of York), CC BY 4.0 — every field note inside the plugin names the team and the source page; full credits in Licenses/THIRD_PARTY_NOTICES.txt. Processed: trimmed, noise tail cut, 48 kHz, level matched. **3D field**: a B-format measurement exists and plays as a sound field in 3D SPEAKERS / 3D HEADPHONES. **from stereo**: no B-format recording exists; in 3D the stereo recording is spatialised (the stage says STEREO CAPTURE). MODELLED: a reconstruction, not a recording.

CAIRN · Updates & support

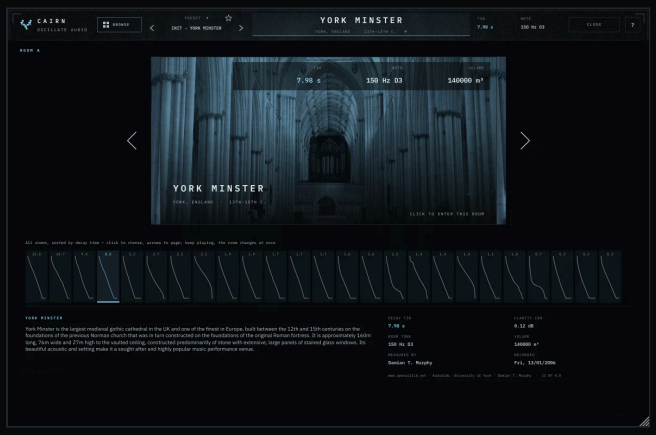
UPDATES

When a newer version exists, the header shows `UPDATE ↗ 1.1 · FREE` (the number is the new version) and a green dot breathes on the ? button. Every update is free for owners.

Click	Opens the download page on oscillateaudio.com in your browser — normally your account at oscillateaudio.com/my.
Hover	The field-note line at the bottom says what is new.
Switch	Help panel (?) → UPDATES: ON · → OFF, click to switch. Next to it: your version and the state (checking, up to date, a newer version available, no connection).
How often	At most once a day, in the background. It never holds up loading, and without internet nothing changes.
What is sent	Only a request for the latest version number. No serial, no email, no computer ID, no cookies; as with any web request, the server sees your IP address. The setting lives in ~/Library/Application Support/Oscillate Audio/.

YOUR SERIAL

The serial arrives by email with the download. Until CAIRN is activated it passes your audio through dry. Click ACTIVATE on the sign above the room display (or ? → LICENSE · ENTER SERIAL), enter your order email and the serial (`CAIRN-PRO-XXXX-XXXX-XXXX-XXXX`), click ACTIVATE — once, for every project, AU and VST3. No trial clock. The serial is bound to that address and works offline — no account, no activation server. It is kept in `Documents/oscillate-licenses.txt`, shared by all Oscillate Audio devices. Lost it? Enter your email at oscillateaudio.com/my.





Room chooser (every room with its measured curve) and a field note — rendered by the plugin itself.

SUPPORT

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