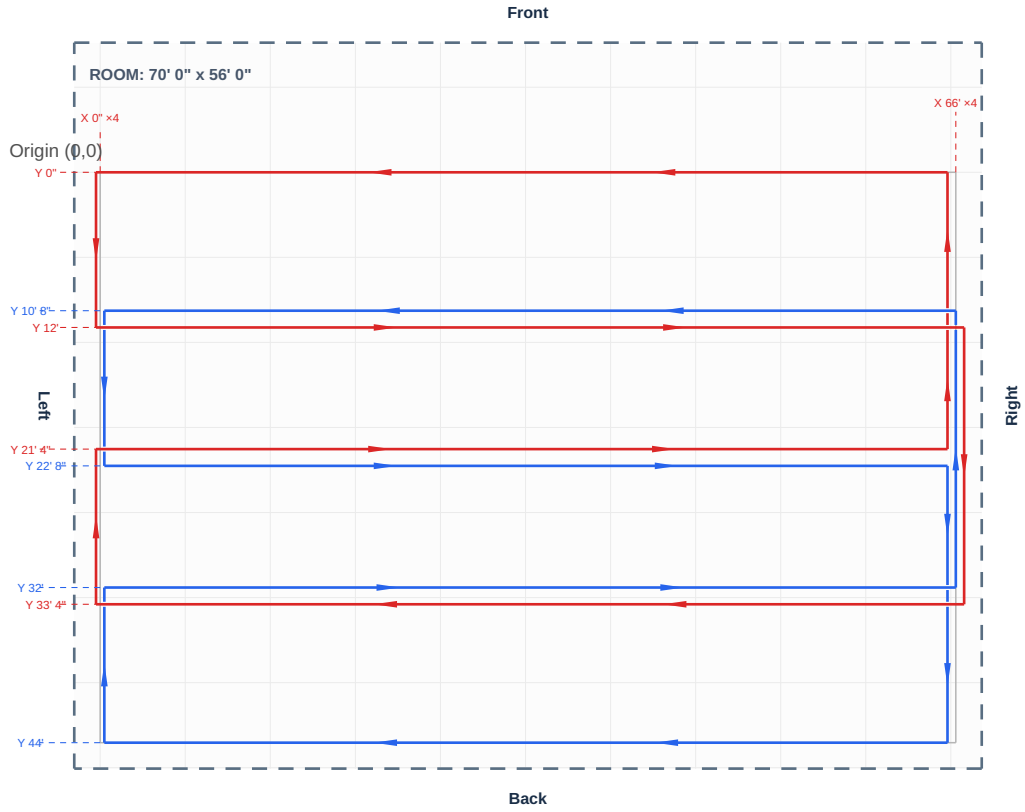
PHASE A PHASE B

WIDTH (X): 66' 0" · LENGTH (Y): 44' 0"



NOTES:

1. ALL DIMENSIONS IN IMPERIAL FEET FROM ORIGIN (0,0).
2. DRAWING NOT TO SCALE; WRITTEN DIMENSIONS GOVERN.

WIND EACH SHOWN LOOP ROUTE 1 TIME(S).

MATERIAL QUANTITIES: SEE THE MATERIALS SHEET.

INSTALLATION, COMMISSIONING AND STAR-QUAD WIRING: SEE FINAL GUIDANCE SHEET.

WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.

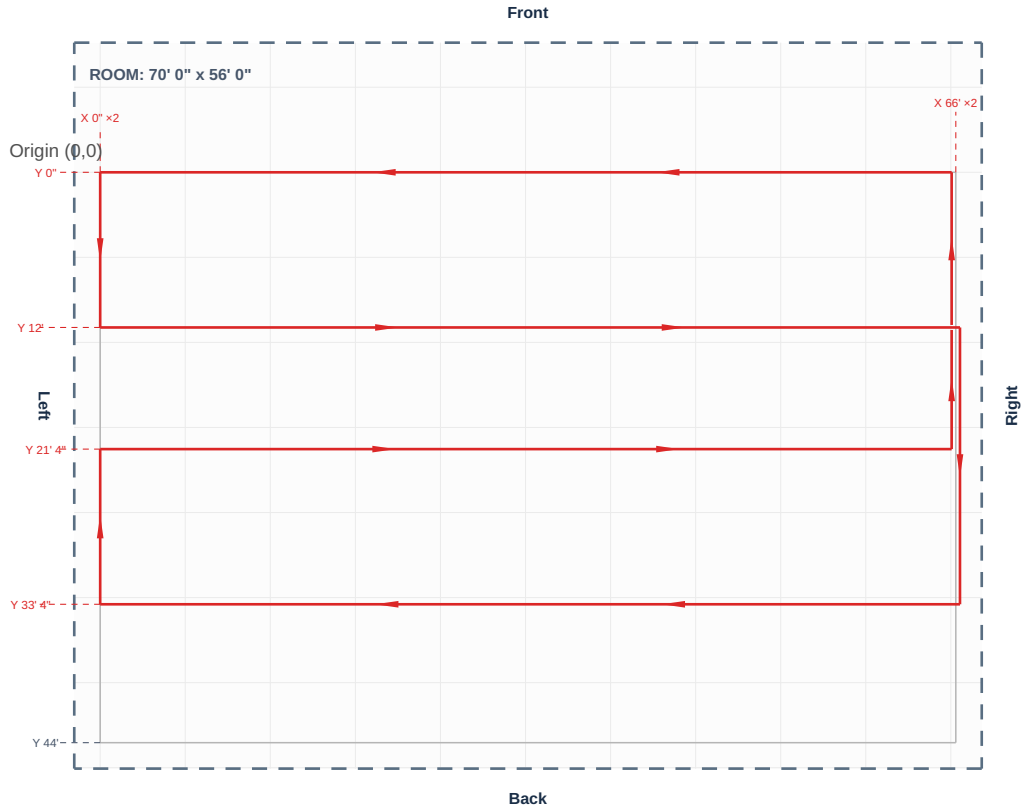
WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT

GENERATED ON: 2026-10-16 16:07

COMPANY NAME EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE OVERALL SYSTEM LAYOUT		
CUSTOMER NAME EXAMPLE: CITY COUNCIL	VENUE NAME EXAMPLE: CIVIC CENTER	SITE ADDRESS 100 EXAMPLE PLAZA		
ROOM NAME COUNCIL CHAMBER	LOOP SECTION NAME MAIN FLOOR	PROJECT / DESIGN NUMBER EX-2026-031	ISSUE STATUS FOR REVIEW	REVISION A
DESIGNED BY MAYA LINDQVIST	DESIGNER ROLE HEARING LOOP DESIGNER	CHECKED BY R. OKAFOR	ISSUE DATE 2026-10-16	
DRAWING NO. EX-2026-031-S-01	SCALE NTS	UNITS IMPERIAL	SHEET 1 / 6	

PHASE A

WIDTH (X): 66' 0" · LENGTH (Y): 44' 0"



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WIND EACH SHOWN LOOP ROUTE 1 TIME(S).

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INSTALLATION, COMMISSIONING AND STAR-QUAD WIRING: SEE FINAL GUIDANCE SHEET.

WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.

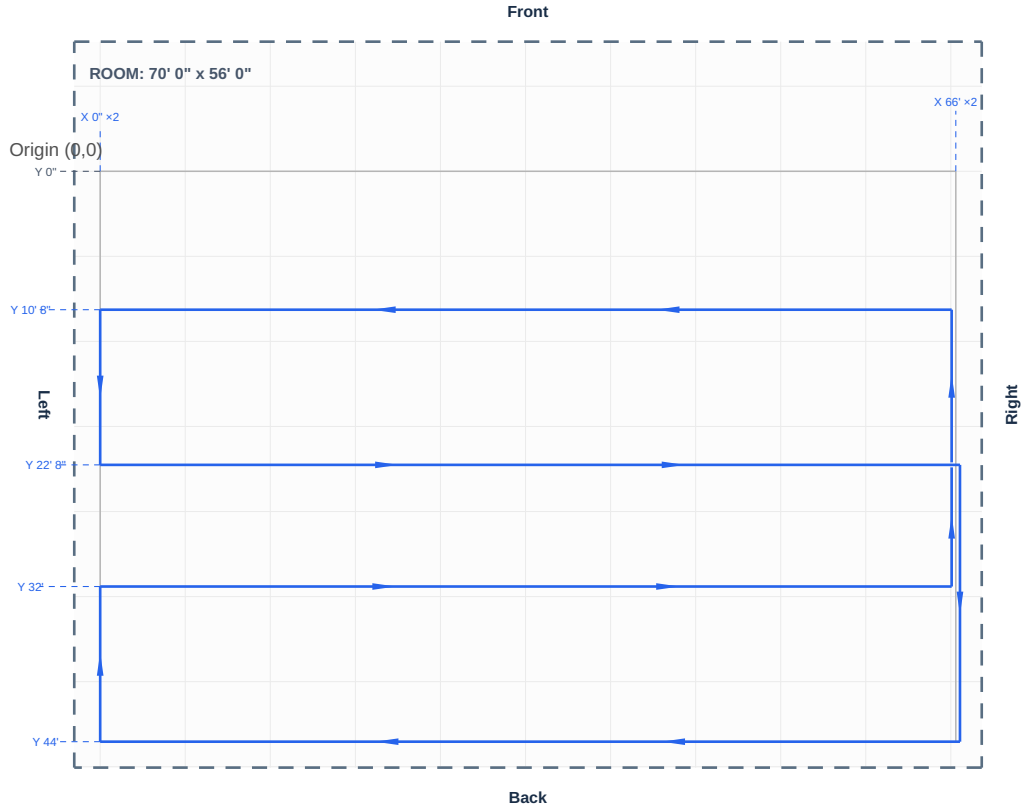
WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT

GENERATED ON: 2026-10-16 16:07

COMPANY NAME EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE PHASE A ARRAY LAYOUT		
CUSTOMER NAME EXAMPLE: CITY COUNCIL	VENUE NAME EXAMPLE: CIVIC CENTER	SITE ADDRESS 100 EXAMPLE PLAZA		
ROOM NAME COUNCIL CHAMBER	LOOP SECTION NAME MAIN FLOOR	PROJECT / DESIGN NUMBER EX-2026-031	ISSUE STATUS FOR REVIEW	REVISION A
DESIGNED BY MAYA LINDQVIST	DESIGNER ROLE HEARING LOOP DESIGNER	CHECKED BY R. OKAFOR	ISSUE DATE 2026-10-16	
DRAWING NO. EX-2026-031-S-02	SCALE NTS	UNITS IMPERIAL	SHEET 2 / 6	

PHASE B

WIDTH (X): 66' 0" · LENGTH (Y): 44' 0"



NOTES:

1. ALL DIMENSIONS IN IMPERIAL FEET FROM ORIGIN (0,0).
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WIND EACH SHOWN LOOP ROUTE 1 TIME(S).

MATERIAL QUANTITIES: SEE THE MATERIALS SHEET.

INSTALLATION, COMMISSIONING AND STAR-QUAD WIRING: SEE FINAL GUIDANCE SHEET.

WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.

WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT

GENERATED ON: 2026-10-16 16:07

COMPANY NAME EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE PHASE B ARRAY LAYOUT		
CUSTOMER NAME EXAMPLE: CITY COUNCIL	VENUE NAME EXAMPLE: CIVIC CENTER	SITE ADDRESS 100 EXAMPLE PLAZA		
ROOM NAME COUNCIL CHAMBER	LOOP SECTION NAME MAIN FLOOR	PROJECT / DESIGN NUMBER EX-2026-031	ISSUE STATUS FOR REVIEW	REVISION A
DESIGNED BY MAYA LINDQVIST	DESIGNER ROLE HEARING LOOP DESIGNER	CHECKED BY R. OKAFOR	ISSUE DATE 2026-10-16	
DRAWING NO. EX-2026-031-S-03	SCALE NTS	UNITS IMPERIAL	SHEET 3 / 6	

UNIFORMITY-OPTIMIZED PHASED ARRAY — CONFIGURATION

N = 4 | Turns = 1 | A/B = 90° | Y from (0,0) | O(+) / G(-)

L#	CH	±	Y1	Y2	Y span	O(+) / G(-)
L1	**A**	**+**	**0"**	**12'**	**12'**	**+1' 4"**
L2	B	+	10' 8"	22' 8"	12'	+1' 4"
L3	A	-	21' 4"	33' 4"	12'	+1' 4"
L4	**B**	**-**	**32'**	**44'**	**12'**	**—**

NOTES:

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WIND EACH SHOWN LOOP ROUTE 1 TIME(S).
MATERIAL QUANTITIES: SEE THE MATERIALS SHEET.
INSTALLATION, COMMISSIONING AND STAR-QUAD WIRING: SEE FINAL GUIDANCE SHEET.
WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.
WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT
GENERATED ON: 2026-10-16 16:07

COMPANY NAME EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE UNIFORMITY-OPTIMIZED PHASED ARRAY — CONFIGURATION		
CUSTOMER NAME EXAMPLE: CITY COUNCIL	VENUE NAME EXAMPLE: CIVIC CENTER	SITE ADDRESS 100 EXAMPLE PLAZA		
ROOM NAME COUNCIL CHAMBER	LOOP SECTION NAME MAIN FLOOR	PROJECT / DESIGN NUMBER EX-2026-031	ISSUE STATUS FOR REVIEW	REVISION A
DESIGNED BY MAYA LINDQVIST	DESIGNER ROLE HEARING LOOP DESIGNER	CHECKED BY R. OKAFOR	ISSUE DATE 2026-10-16	
DRAWING NO. EX-2026-031-S-04	SCALE NTS	UNITS IMPERIAL	SHEET 4 / 6	

Materials to buy

Example: Civic Center / Council Chamber - Main floor | EX-2026-031 / A

Material	Specified product / part number	Required quantity
Loop driver	Contacta V12a	**1 unit**
Loop wire Total for all active phases, turns and cancellation loops.	14 AWG	**623.8 ft**
Feeder cable 2 cable run(s), each 85 ft.	14/4 AWG Quad Core	**170 ft**

Lengths are modeled minimums, rounded up to 0.1 m or ft. No allowance for extra site routing, slack or waste is included. Confirm those allowances and whole-roll purchasing quantities before approval.

Review exact products, part numbers and quantities before approval. Other installation accessories are not itemized here.

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INSTALLATION, COMMISSIONING AND STAR-QUAD WIRING: SEE FINAL GUIDANCE SHEET.
WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.
WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT
GENERATED ON: 2026-10-16 16:07

COMPANY NAME EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE MATERIALS TO BUY		
CUSTOMER NAME EXAMPLE: CITY COUNCIL	VENUE NAME EXAMPLE: CIVIC CENTER	SITE ADDRESS 100 EXAMPLE PLAZA		
ROOM NAME COUNCIL CHAMBER	LOOP SECTION NAME MAIN FLOOR	PROJECT / DESIGN NUMBER EX-2026-031	ISSUE STATUS FOR REVIEW	REVISION A
DESIGNED BY MAYA LINDQVIST	DESIGNER ROLE HEARING LOOP DESIGNER	CHECKED BY R. OKAFOR	ISSUE DATE 2026-10-16	
DRAWING NO. EX-2026-031-S-05	SCALE NTS	UNITS IMPERIAL	SHEET 5 / 6	

Installation checks & commissioning

The installer assumes all liability and has final responsibility for the suitability of the installation, materials and methods.

1 Install this design

Follow the dimensions, elevations, turn count and winding arrows. Line offsets on drawings are for clarity, not extra spacing. Review route or material changes before installation.

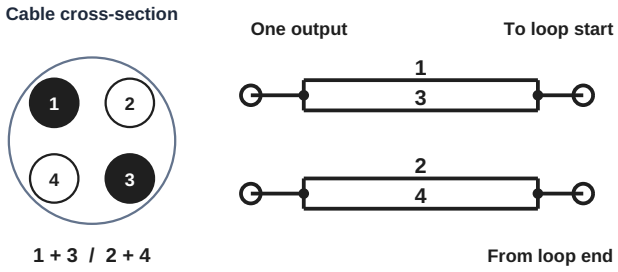
Keep each channel as one continuous series run through its sections. Preserve polarity and phase settings; do not parallel the sections or connect crossing wires.

Wire: keep the designed conductor size. Protect insulation at crossings, joints, seat fixings and floor edges; a small nick becomes a hidden fault after covering. [1,3]

Before and after covering, disconnect the driver and record continuity, resistance and isolation. Photograph the routes while visible. Disconnect electronics before using an insulation tester. [1,4,6]

2 Star-quad feeder wiring

Use star-quad to reduce unwanted field along the feeder and reduce its inductance. In one overall-sheathed four-core cable, pair opposite cores for each leg, as shown. Each channel needs its own cable; feeder length still uses driver voltage headroom. [2]



Core numbers only - not colours or connector pins. Pair at BOTH ends. One quad per channel; never share returns or join driver outputs.

Selected: four-core feeder. Confirm it is wired as shown; the modeled area is per core, with two cores per leg. [2]

3 Test and hand over

With the loop off, measure magnetic background noise with normal building equipment operating. Use a calibrated field meter and a loop listening receiver. [7]

Use the test signal and meter mode matched to the driver. Set input gain/AGC, then output and metal-loss correction. A driver knob at 0 dB does not mean the field measures 0 dB. [7]

Walk the listening area at the intended listening heights. Record field level, frequency response, noise and headroom; test all channels together and listen to the actual programme. Investigate weak seats rather than turning everything up. [7,5]

Map coverage, spill and exceptions. Hand over as-built routes, settings and test records; provide signage, a receiver, staff instruction and a named person for regular/pre-use checks. [7,5]

Guidance revision: 2026-09-15.1

Active loop circuits in this design: 2.

[1] Equal Access Audio [2] UP30160-1 [3] Cable installation [4] UP10006-10 [5] Commissioning [6] Troubleshooting [7] IEC 60118-4

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WIRES ARE SEPARATED VISUALLY. CROSSING GAPS INDICATE UNDERPASSES, NOT WIRE BREAKS.
WIRE ORIENTATION: Y — LONG RUNS: LEFT <-> RIGHT
GENERATED ON: 2026-10-16 16:07

COMPANY NAME: EXAMPLE AV SERVICES	Hearing Loop Designer	DRAWING TITLE: INSTALLATION CHECKS & COMMISSIONING		
CUSTOMER NAME: EXAMPLE: CITY COUNCIL	VENUE NAME: EXAMPLE: CIVIC CENTER	SITE ADDRESS: 100 EXAMPLE PLAZA		
ROOM NAME: COUNCIL CHAMBER	LOOP SECTION NAME: MAIN FLOOR	PROJECT / DESIGN NUMBER: EX-2026-031	ISSUE STATUS: FOR REVIEW	REVISION: A
DESIGNED BY: MAYA LINDQVIST	DESIGNER ROLE: HEARING LOOP DESIGNER	CHECKED BY: R. OKAFOR	ISSUE DATE: 2026-10-16	
DRAWING NO.: EX-2026-031-S-06	SCALE: NTS	UNITS: IMPERIAL	SHEET: 6 / 6	