

Cable length calculator and supporting downloads available at www.ampetronic.com/w52

- Notes:
1. The loop system consists of two circuits.
 2. Each circuit (array) is driven by a separate amplifier channel and unless specified the output current for each channel should be set the same.
 3. The feed cable between driver and loop must be installed with the specified cable type. If the feed cables are longer than specified or a different cable type this may impact system performance.
 4. Depending on the floor construction of the room, choose the suitable installation type to ensure metal can be compensated.
 5. Once installed, the loop should be tested to confirm the resistance of each circuit is as specified and there is no continuity between arrays or to ground.
 6. At the earliest opportunity and ideally while the loop cable is still accessible, test the system using a calibrated field strength meter to confirm the expected field strength, frequency response and overspill control has been achieved.
 7. Induction loop systems rely on high quality audio inputs, any microphones or audio feeds to the loop should be tested to ensure good intelligibility is provided. Audio inputs are not provided by Ampetronic.

EQUIPMENT REQUIRED FOR THIS DESIGN			
Product	Description	Unit Size	Qty
W5-2	5A MultiLoop Driver	Wall Mount	1
ACFB50U10 or ACFB50U12x2	Suitable flat copper tape as per design configuration and room size	50m	2
ACWP50	Adhesive Warning Tape	50m	2
2.5mm ² Twisted Pair Feed Cable (client supplied)		5m	2

DESIGN SPECIFICATION							
Floor Type	Design Configuration	Cable Type	Base Current	Loss Allowance	Maximum Loop Array Width	Loop Inductance Switch Setting	
Concrete with moderate reinforcement	Single Turn	ACFB50U10 – 1.0mm ² Single Core Flat Copper Tape	2.9 Arms	4.4 dB	4.2 m	Low	
Raised access metal system floor	Double Turn	ACFB50U12x2 – 1.2mm ² Twin Core Flat Copper Tape	1.45 Arms	8.8 dB	3.7 m	Medium	

Ampetronic Ltd

Unit 2, Trentside Business Village
Farndon Road, Newark
NG24 4XB
+44 (0)1636 610062
support@ampetronic.com
www.ampetronic.com

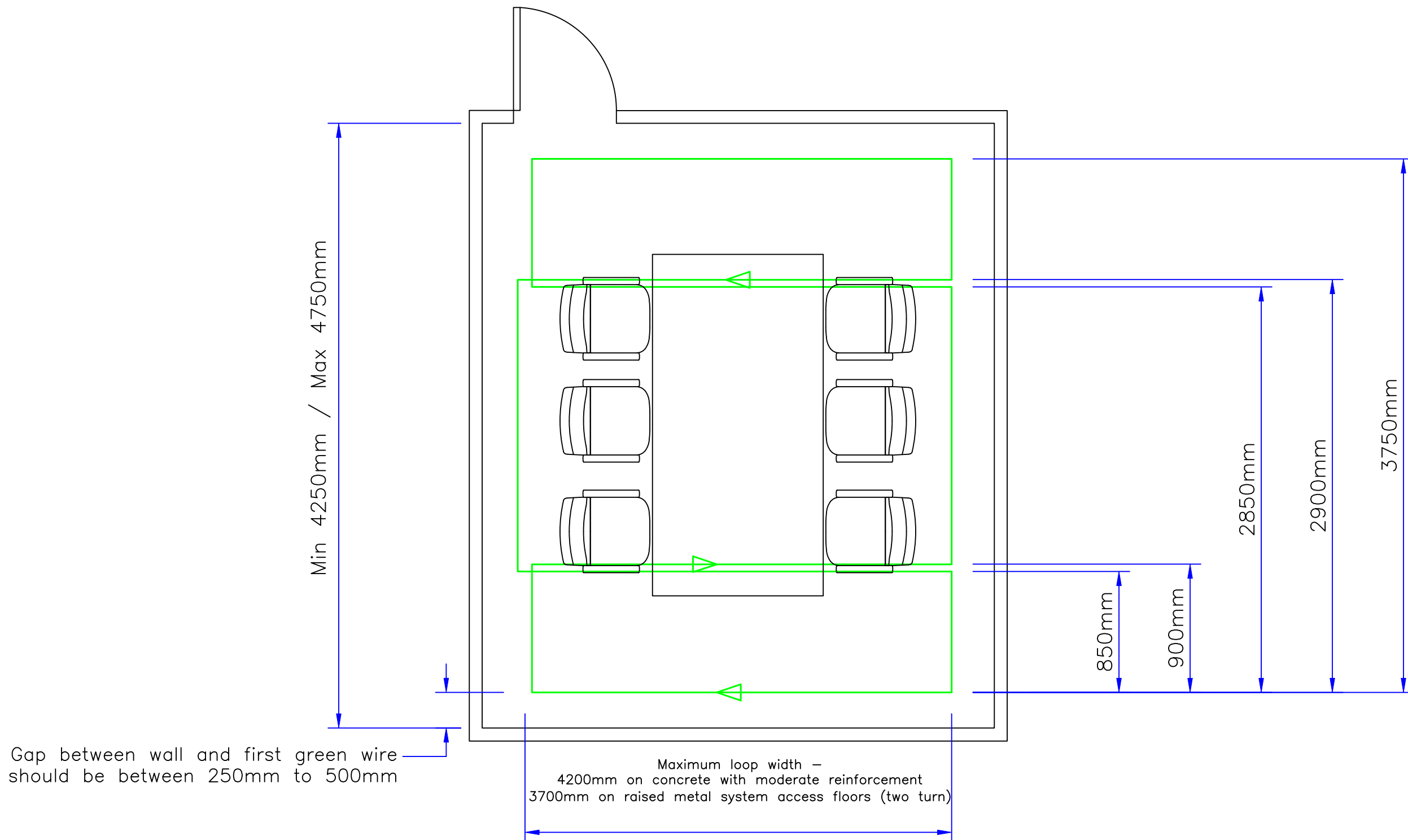
CLIENT:
Ampetronic Ltd

SITE:
W-Series Standard Designs

TITLE:
4.25m - 4.75m Room

SCALE AT A3: 1:30	DATE: 15/01/2024	DRAWN: ALJ	CHECKED: CD
DRAWING NO: 134-416 / 02	SHEET: 1 of 5 - Floorplan	REVISION: 0	

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Gap between wall and first green wire should be between 250mm to 500mm

Maximum loop width –
4200mm on concrete with moderate reinforcement
3700mm on raised metal system access floors (two turn)

This design is intended for rooms with a Y dimension between 4.25m and 4.75m, the gap at the top and bottom of each array should be increased or decreased accordingly to keep the loop dimensions exactly as shown.
In the X axis the design can be extended to fill the room up to the limits provided on page 1.
The gap to the left and right should be set based on the balance between coverage and spill control, where there are adjacent rooms a gap of 0.4m to 0.5m is recommended, however a smaller gap may be needed if there are seating positions particularly close to one or more of the walls.

Notes:

1. The loops must be installed and wired exactly as shown in the drawings.
2. Tolerance for the dimension of any point is ± 50 mm.
3. If there are obstructions not shown on the drawings the wire may be diverted up to 300mm sideways and 400mm along the length of the wire. Any larger diversion must be confirmed with Ampetronic to ensure performance is maintained.
4. The loop is shown as a single continuous circuit, you should start and finish the circuit at the closest convenient point to the feed cable connecting to the amplifier.
5. Any distance between loop tapes and the feed cable point should be covered with a pair of tapes run directly next to each other. This should be no greater than 500 mm total.
6. The loops should be installed on the floor using flat copper tape and adhesive installation tape under the floor finish (carpet or vinyl).
7. If used under particularly thin floor coverings, the line of the tape could be slightly visible. The installer is responsible for confirming the compatibility of all materials before they are used in the project.
8. If installing flat copper tape on metal floor tiles an undertape layer should be used to offer additional protection between the floor and loop.
9. Flat copper tape should not be covered with levelling compounds or other cement based materials without seeking specialist advice.
10. Where joints are required between tape or cable these must be made using a suitably robust electrical connection, eg. solder or crimps, and re-insulated to the same level as the original cable.

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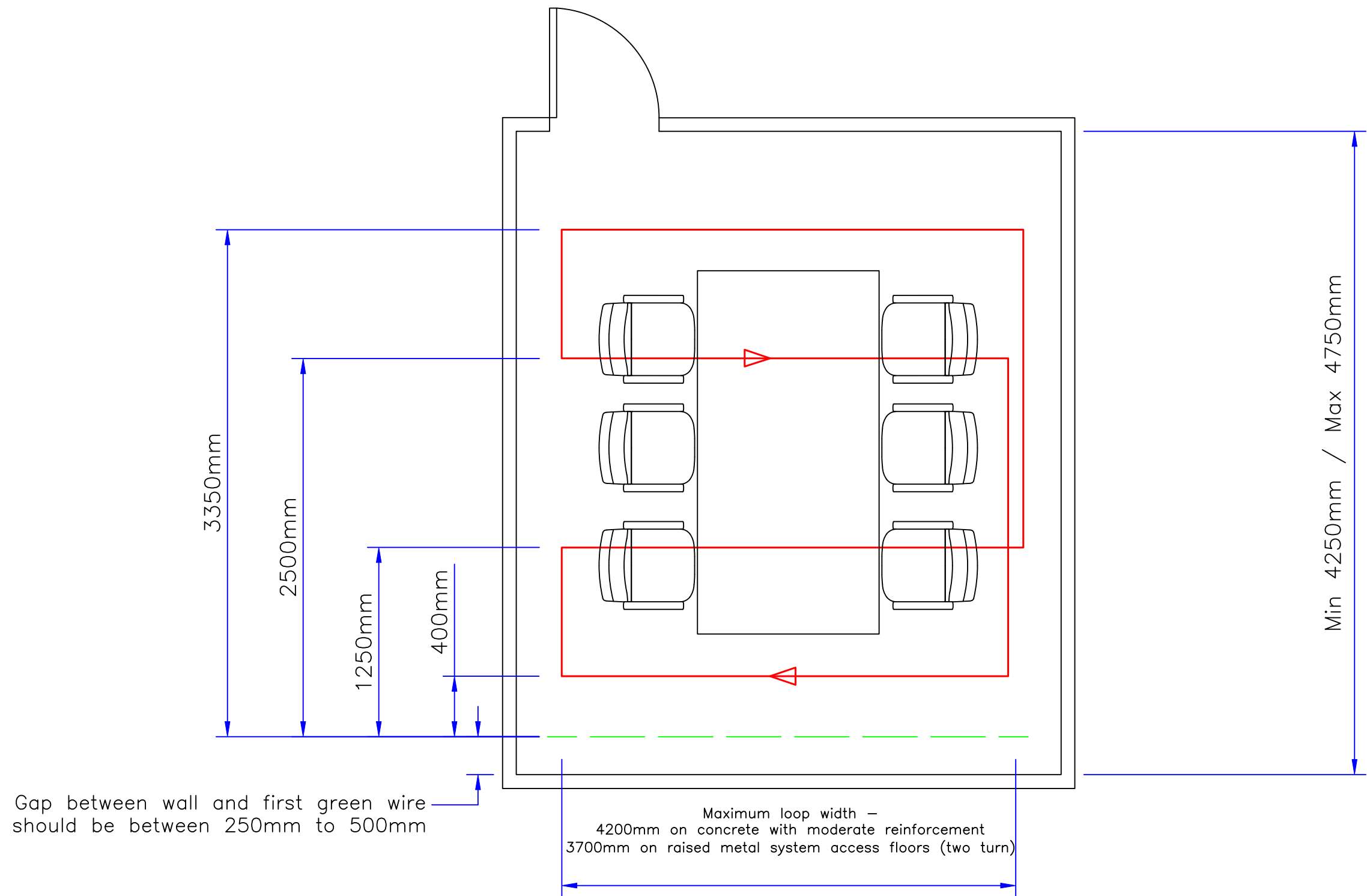
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DRAWING NO:
134-416 / 02

SHEET:
2 of 5 - Array 1

REVISION:
0

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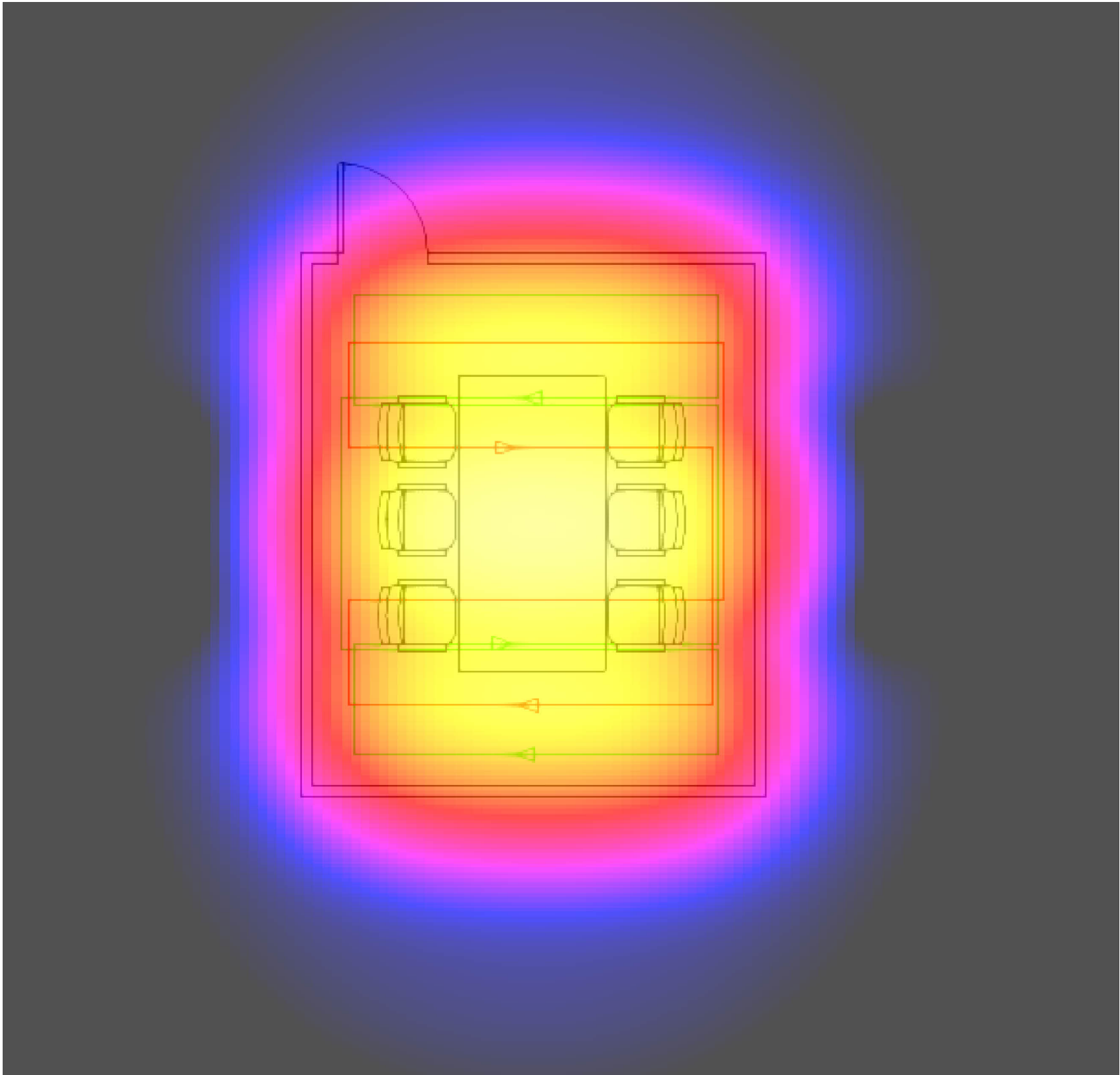
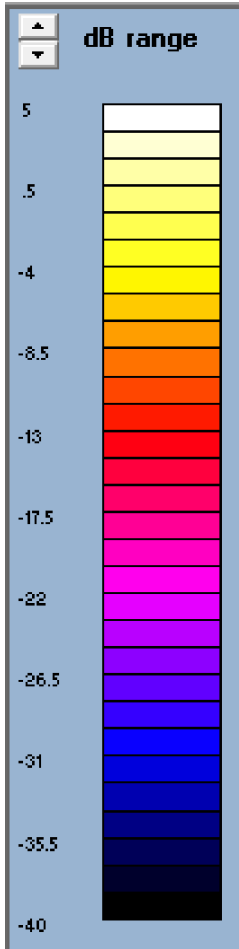
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134-416 / 02

SHEET:
3 of 5 - Array 2

REVISION:
0

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Indicative Signal Coverage at 1.2m listening height within the room



Notes:

1. The coverage plot shows simulated signal within the room and overspill to adjacent areas based on the loop layout modelled in this drawing.
2. The field strength should be $0\text{dB} \pm 3\text{dB re: } 0.4\text{Am}^{-1}$ (RMS) in the areas of good coverage in compliance with IEC 60118-4.
3. Both coverage and overspill can be affected by a number of factors, such as the accuracy of the installation and the impact of metal structures on site.
4. Overspill to areas of different listening planes is not represented and should be confirmed with Ampetronic if required.
5. Overspill can cause interference with instruments such as electric guitars and some dynamic microphones, it is important to check that spill control measures have been provided to any intended performance areas.
6. Actual performance may depend on magnetic background noise within the space, which could be caused by electrical equipment or adjacent loop systems, where possible this should be tested before installation.
7. Field strength outside the room (spill) should not be greater than $-32\text{dB re: } 0.4\text{Am}^{-1}$ (RMS), measured from the following distances at the edge of the loop tape:

North: 1.45m

East: 1.2m

South: 1.45m

West: 1.2m
8. If additional spill control is required, e.g. if there is a specific area to avoid signal leaving the room, then ensure a gap to the wall of at least 0.4m

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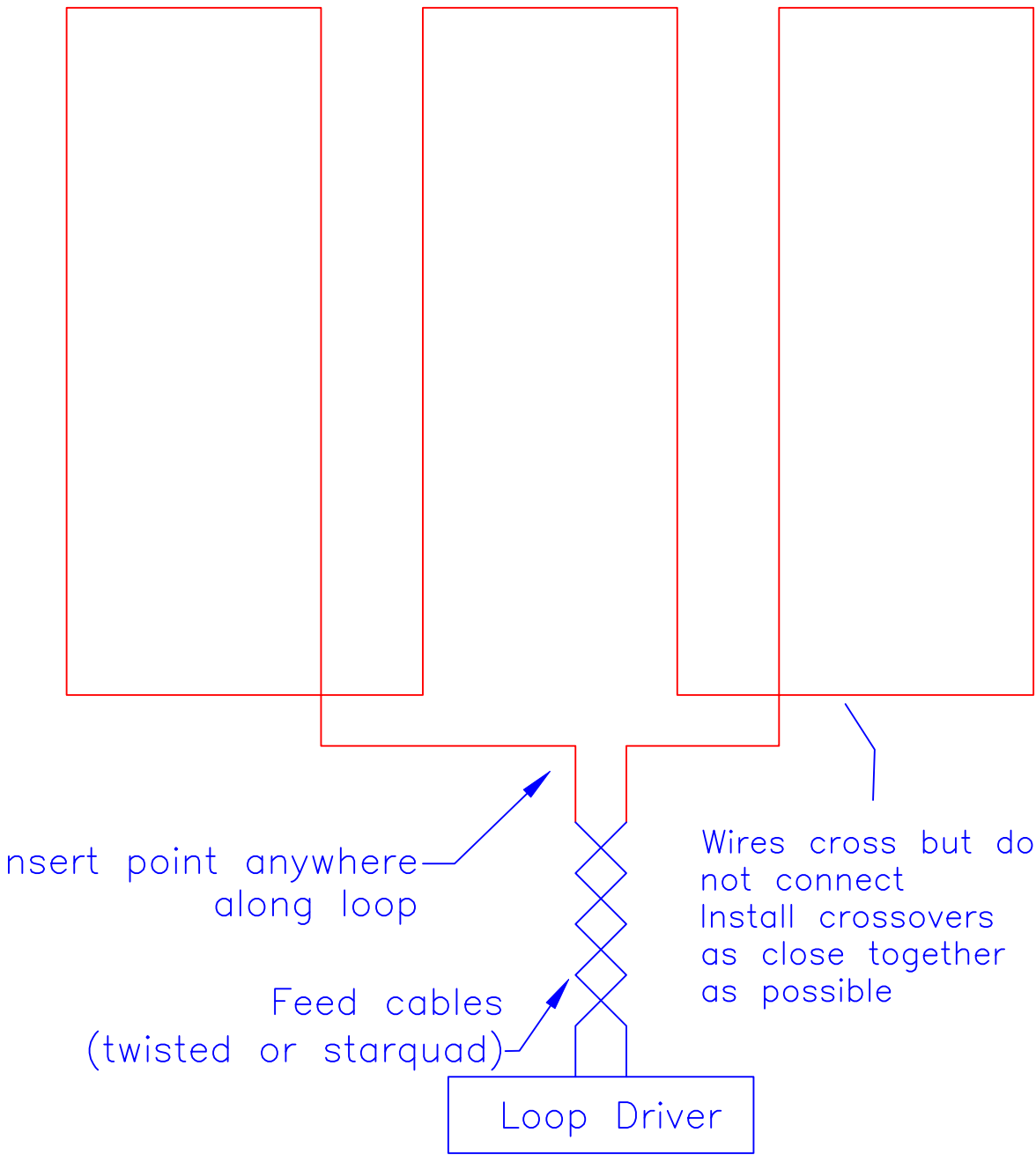
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SCALE: AT A3: NTS	DATE: 15/01/2024	DRAWN: ALJ	CHECKED: CD
DRAWING NO: 134-416 / 02	SHEET: 4 of 5 - Performance	REVISION: 0	

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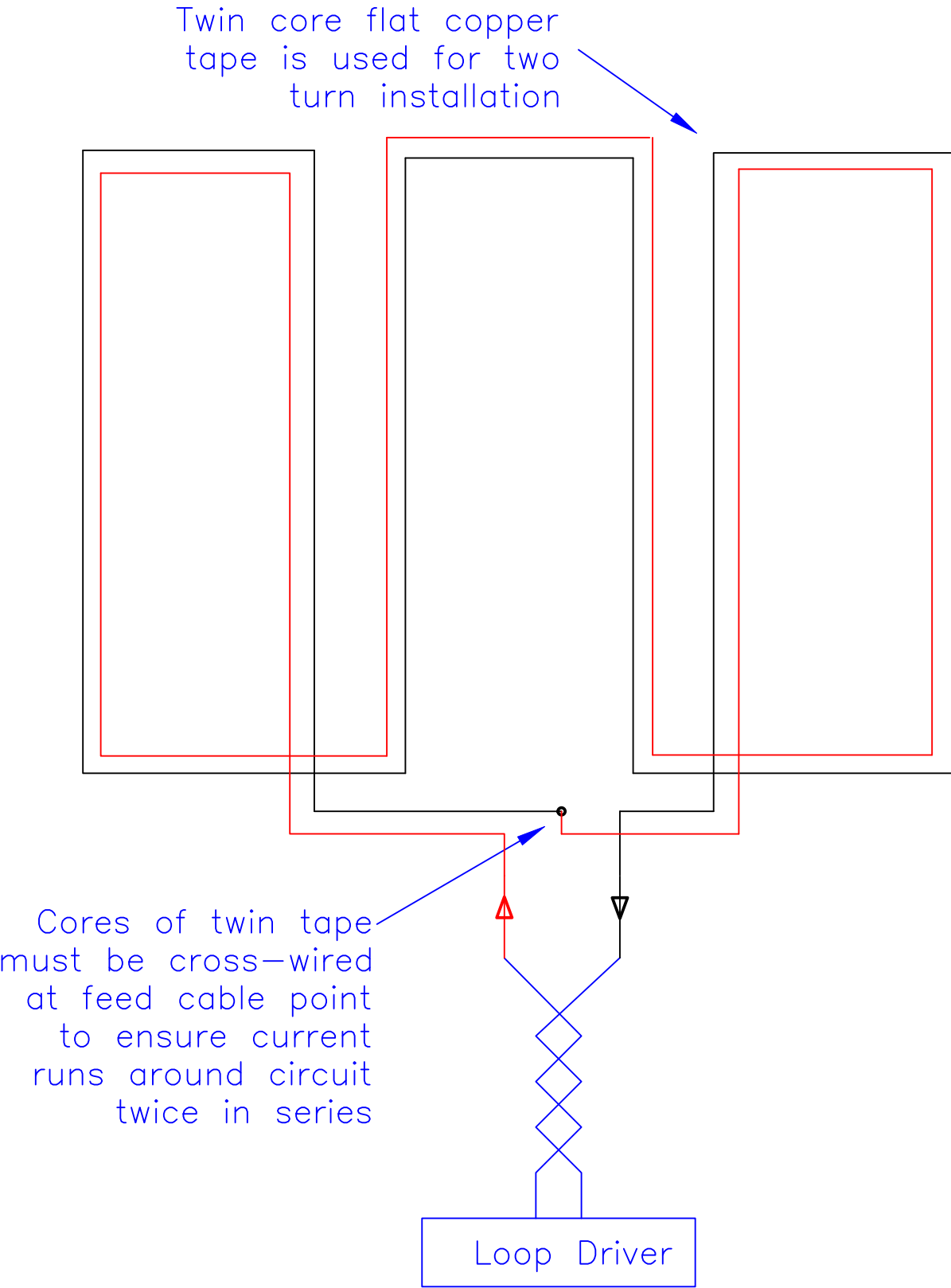
Single Turn Installation

For rooms with no metal or moderate reinforced concrete (eg. light steel mesh / rebar) in the floor construction. Estimated up to 4.4dB loss headroom.



Two Turn Installation

For rooms with raised metal system floors. Estimated up to 8.8dB loss headroom.



- Notes:
1. Polarities and crossovers must be installed as shown in the layout drawings to ensure the loop performs as designed.
 2. When tape is used, adjacent wires should be run directly next to each other, care should be taken to avoid short circuits at crossover points.
 3. When using cable, adjacent wires can be run in the same conduit or saw cut.

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