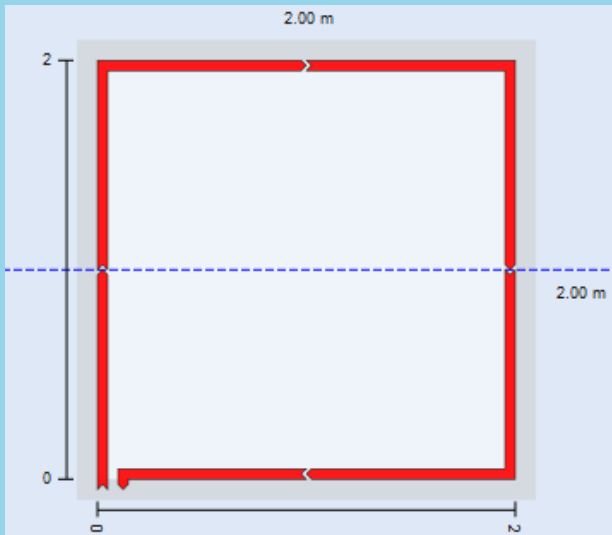


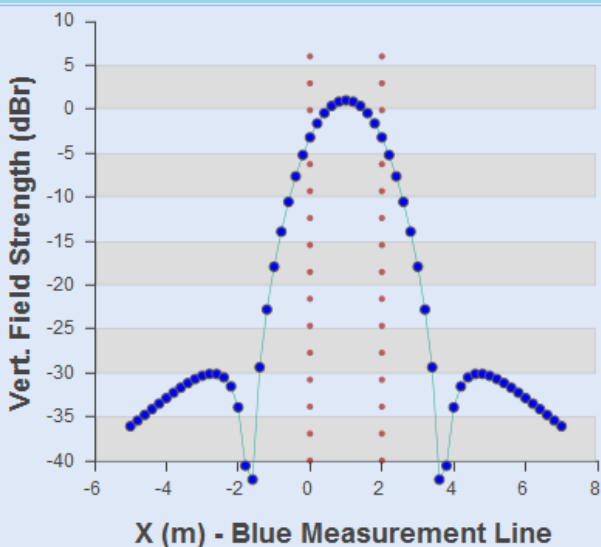
Guidance For Commissioning Counter Loops



For optimum field strength uniformity the ideal counter loop is approximately 2m x 2m and installed in front of the counter in the floor or ceiling.



The field strength variation in the vertical plane is approx. 6db from 1.2m to 1.7m. In the horizontal plane the variation is 5db from the

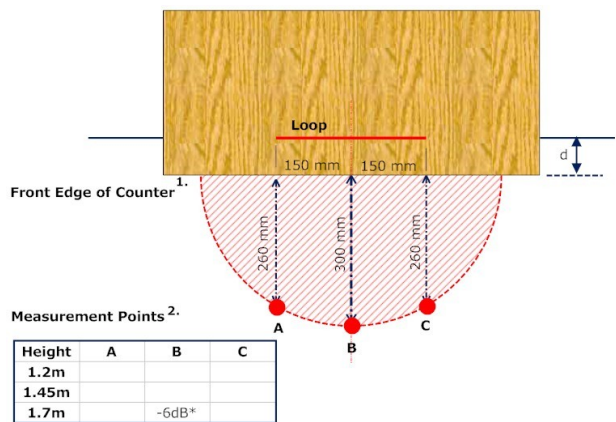


centre to the edge of the loop. However, this approach is not suitable for multiple adjacent counters and can be impractical to install. Typically, smaller preformed 'Counter Loops' are used instead.

The latest edition of IEC 60118-4:2014 provides new guidelines for the performance of one to one loop systems such as counter loops.

It specifies a volume of space over which the field strength should be tested.

The field strength should be measured at a height of 1.2m, 1.45m and 1.7m at locations A, B and C as shown in figure 1. At these 9 points



the field strength should be within a range of -6dB to +6dB.

Note:

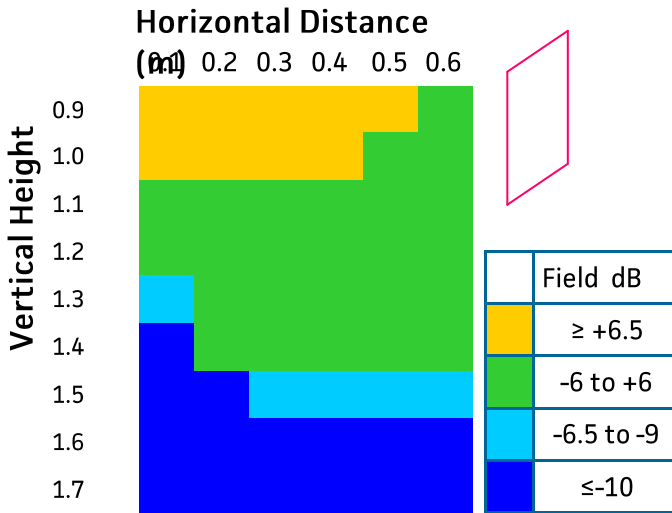
1. The horizontal distances specified are from the counter edge (the nearest position to the loop that the user may stand) not the loop. The distance to the loop from the counter edge is the offset, d.
2. The field strength should not exceed +8dB in the area where users are expected to stand (Red shaded area). However, due to the nature of the loop it is recognised that this is often unavoidable and the user is expected to adjust their position accordingly.
3. 0dB is defined as 400mA/m rms
4. Microphones should be fixed in place as close as possible to the staff speaking position.
5. The microphone gain should be carefully adjusted to avoid over sensitivity to background noise
6. The operator should be trained on the systems use and on how to check the system using a loop listener
7. Clear signage to indicate the presence of the system must be visible.

Loop Orientation

Different loop orientations have different field characteristics. We generally recommend that the loop is folded and installed inside the front counter edge, but in some situations other orientations may give better performance. It depends on the height of the loop and the horizontal displacement.

The field plots below give an indication of just how the loop orientation affects the field distribution.

Loop Mounted Vertically

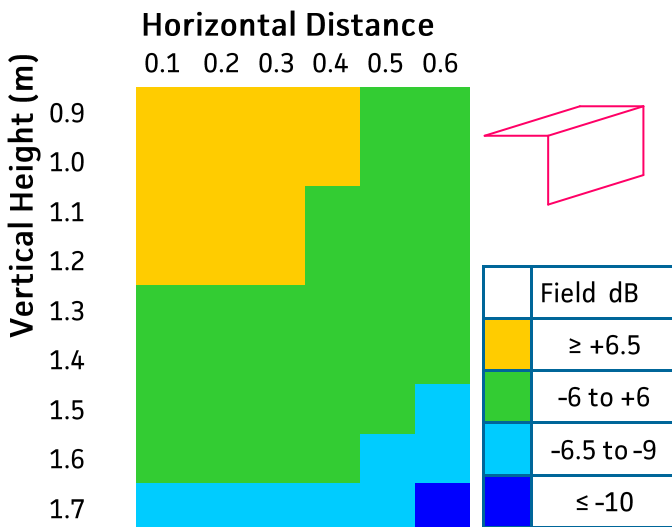


With the loop mounted vertically in the counter there is good field strength uniformity in the horizontal plane



The top front edge of the loop is at 0.77m from the floor. The loop current = 1.4A. ms . There is no horizontal offset. Loop Type:- Univox preformed 30cm x 30cm multi-turn loop.

Loop Folded At Right Angle



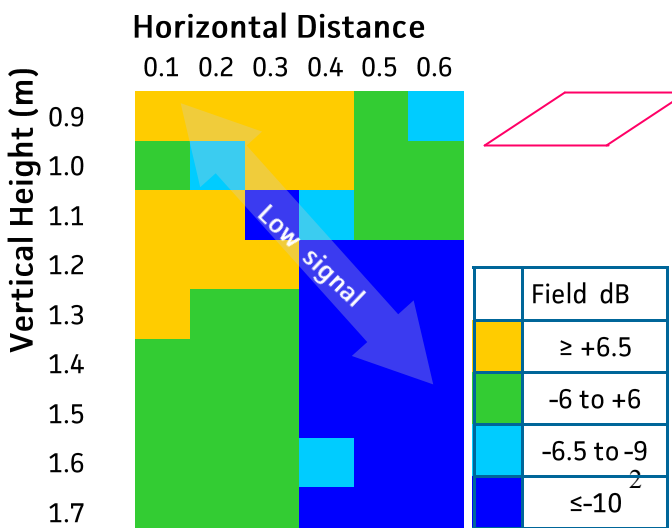
With the loop folded at right angles there is good uniformity in the horizontal and vertical plane.

With a small horizontal offset the uniformity in the vertical plane can be improved



The top front edge of the loop is at 0.77m from the floor. The loop current = 1.4A. ms . There is no horizontal offset. Loop Type:- Univox preformed 30cm x 30cm multi-turn loop.

Loop Mounted Horizontally



With the loop mounted horizontally in the counter good uniformity in the vertical plane in close proximity to the loop edge is achieved However, this loop orientation exhibits a null field that may intrude in the user defined space. See



The top front edge of the loop is at 0.77m from the floor. The loop current = 1.4A. ms . There is no horizontal offset. Loop Type:- Univox preformed 30cm x 30cm multi-turn loop.

The FSM 2.0 Field Strength Meter



The FSM 2.0 is a microprocessor controlled instrument using multi-tone signals to make advanced measurements of induction loop systems quick, accurate and easy. It is the only FSM to fully satisfy the demands of the IEC60118-4 standard by being capable of measuring noise levels down to -47dB. And since it is programmable, its mode of operation can be updated to reflect changes to the standard as they occur. The instrument has a clear, backlit, LCD display and steps through the required measurements in a logical sequence, matching the test certificate to simplify the certification process. With sharp, narrow band filtering and a noise spectrum display function, spill control and background noise assessments are also made easy. With the dedicated 1.6kHz test tone available for this meter, the maximum power bandwidth is easy to assess



The Univox® Loop Listener



The Univox® Loop Listener has an inbuilt speaker for the assessment of audio quality and power level LED's to check field strength. It is an essential tool for any facility serious in maintaining good operational loop systems.



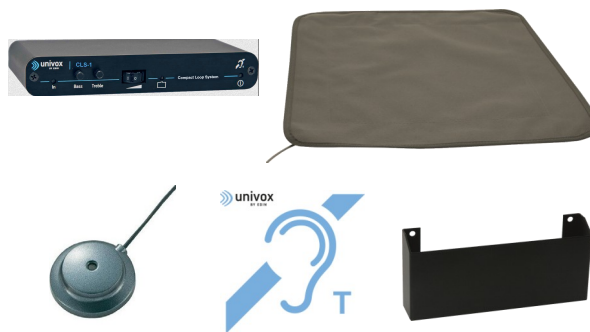
CTC-Counter Loop Kits

The CLS-1 Compact loop amplifier is at the heart of our counter loop kits.



It has the highest output power in its class and features Univox® Dual Action AGC technology for superior intelligibility. The amplifier has 3 inputs with volume, base and treble (Metal Loss Compensation) controls on the front panel. Once set, the unit can be dropped into the mounting bracket supplied restricting further access.

CTC-120 Counter Loop Kit



CTC-121 Counter Loop Kit



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