

# INDUCTION LOOP TESTING EQUIPMENT

## Do your induction loop installations comply with current British standards?

BS8300 (the code of practice for the design of buildings and their approaches to meet the needs of disabled people) states that all loop systems should conform to BS7594 and BS EN60118-4. The best way to ensure compliance is to use the new FoSmeter / P-NGen range of induction loop testing equipment.

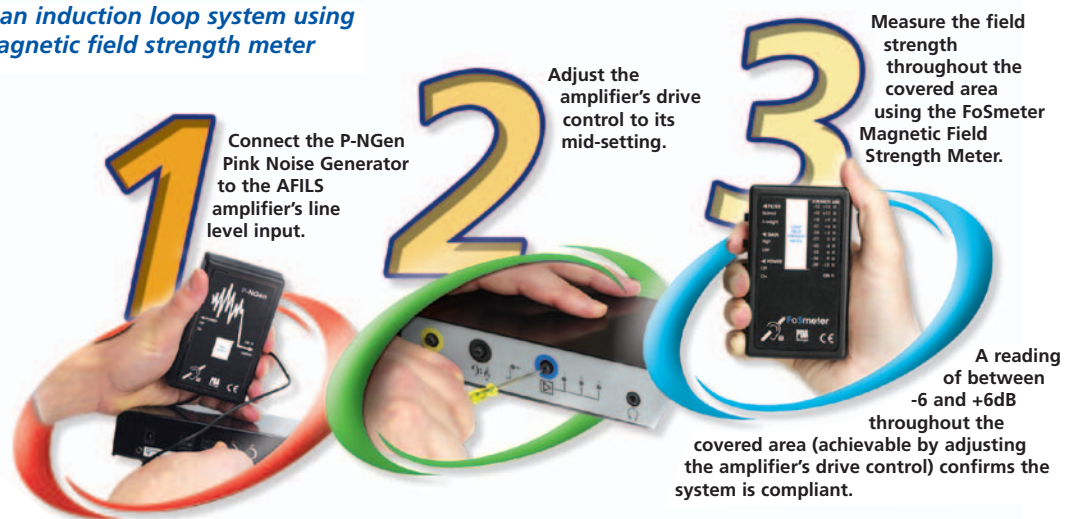
The range comprises the P-NGen Pink Noise Generator and the FoSmeter Magnetic Field Strength Meter. Used together, they represent the most reliable method of ensuring that an AFILS system is working correctly.

A combined Pink Noise Generator and Magnetic Field Strength Meter (the FoSmeter+) and a combined Magnetic Field Strength Meter and Loop Listening Device (the FoSmeter H) are also available.



- Ideal for testing and maintaining virtually all makes of induction loop system to ensure compliance with industry accepted standards
- The range comprises a pink noise generator (the P-NGen) and a selection of magnetic field strength meters (the FoSmeter, FoSmeter + and FoSmeter H)
- The P-NGen pink noise generator can be connected to the line level input of most induction loop systems and provides a constant 400mV RMS balanced signal which can be much more accurately measured than the variable output of music or speech
- The FoSmeter range of magnetic field strength meters can be used to measure the magnetic field strength of any AFILS system in increments of 3dB (relative to 100mA/m)
- All FoSmeter variants feature an 'A-weighted' filter to match the characteristics of the human ear and minimise the effects of mains or electrical hum and a High/Low gain switch\* to help monitor the effects of crosstalk or overspill
- A combined FoSmeter/Pink Noise Generator (the FoSmeter +) and a combined FoSmeter/Loop Listener (the FoSmeter H) are also available
- \* Please note the gain switch on the FoSmeter H is set to operate in low mode only
- All FoSmeter and P-NGen variants require 1 x PP3 battery (not supplied)

## A step by step guide to testing an induction loop system using a pink noise generator and a magnetic field strength meter



**1** Connect the P-NGen Pink Noise Generator to the AFILS amplifier's line level input.

**2** Adjust the amplifier's drive control to its mid-setting.

**3** Measure the field strength throughout the covered area using the FoSmeter Magnetic Field Strength Meter.

A reading of between -6 and +6dB throughout the covered area (achievable by adjusting the amplifier's drive control) confirms the system is compliant.

Important: Once you have verified the magnetic field strength of the system, we recommend you listen to the system's real audio source(s) using a loop listening device (such as the FoSmeter H) to ensure there is no 'clipping' or distortion. If any adjustments need to be made to the amplifier's settings, be sure to re-test the system using the P-NGen pink noise generator and a FoSmeter variant before signing the installation off.



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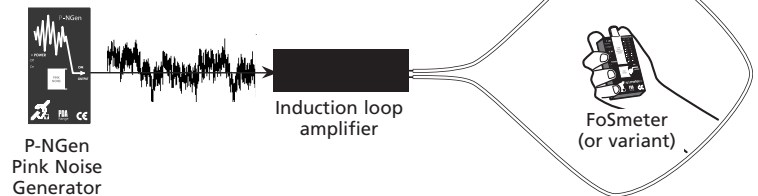
## OVERVIEW

Audio frequency induction loop systems require careful testing and calibration prior to operation. The most efficient way of doing this is to use a P-NGen Pink Noise Generator and a FoSmeter Magnetic Field Strength Meter.





BS7594 recommends that the minimum magnetic field strength of an induction loop system over a covered area should be 100mA RMS per metre. The most effective and reliable way of ensuring this requirement is met is to measure the magnetic field strength of a steady output from the induction loop amplifier.

Unlike music or speech (both of which provide a variable sound output from which it is virtually impossible to obtain an accurate RMS reading), pink noise has an equal and constant amount of energy content per octave of bandwidth. When fed into an induction loop system, pink noise therefore gives a constant magnetic field strength which can be easily and accurately measured using a magnetic field strength meter.

### General principle of testing



## THE FoSmeter / P-NGen RANGE

<b>P-NGen</b> Stand-alone Pink Noise Generator	<b>FoSmeter</b> Stand-alone Magnetic Field Strength Meter	<b>FoSmeter +</b> Magnetic Field Strength Meter c/w Pink Noise Generator	<b>FoSmeter H</b> Magnetic Field Strength Meter c/w Loop Listener
 <p>The P-NGen can be connected to the line level input of most audio-frequency induction loop amplifiers. It has a fixed level output of approx. 400mV RMS and a crest factor of approx. 4:1.</p> <p>The following leads are available for connecting the P-NGen to a PDA Range induction loop system:-  <b>AL1:</b> 3.5mm jack to 3.5mm jack lead  <b>AL2:</b> 3.5mm jack to double phono lead  <b>AL3:</b> 3.5mm jack to pre-cut end lead                      All leads are 10m long.</p> <p>For customers wishing to make their own connection leads, please note that TIP = Audio+; Ring = Audio -; SCREEN = internal ground.</p> <p><b>Order code:</b> PNGN  <b>Dimensions (WxHxD):</b> 64 x 101 x 22mm  <b>Pink noise output level:</b> 400mV RMS  <b>Pink noise crest factor:</b> 4:1 approx.  <b>Pink noise output socket:</b> 3.5mm jack  <b>Controls:</b> 1 x Power on/off switch  <b>Indicators:</b> 1 x Power on LED  <b>Battery requirements:</b> 1 x PP3</p>	 <p>The FoSmeter can be used to accurately measure the magnetic field strength of an induction loop system. It is calibrated at manufacture for accuracy and linearity using a calibrated magnetic field and includes 10 LEDs laid out in 3dB increments. These LEDs indicate the magnetic field strength relative to 100mA/m (i.e. 0dB) and their response is fast attack and slow decay in line with peak programme meter type instruments.</p> <p>Two switches are also provided, a normal/A-Weight FILTER switch and high/low GAIN switch.</p> <p><b>Order code:</b> AHHM  <b>Dimensions (WxHxD):</b> 64 x 101 x 22mm  <b>Controls:</b> 1 x Power on/off switch;                      1 x Filter switch;                      1 x Gain switch.  <b>Indicators:</b> 1 x Power on LED;                      10 x field strength LEDs.  <b>Battery requirements:</b> 1 x PP3</p>	 <p>The FoSmeter+ combines the functions of the P-NGen pink noise generator and the FoSmeter magnetic field strength meter (as detailed in columns one and two) in a single unit.</p> <p>We recommend the FoSmeter + is used for testing small installations only as it is not practical to have a long lead trailing from the pink noise output socket to the AFILS amplifier. For larger applications, use a separate stand-alone pink noise generator with a FoSmeter, FoSmeter+ or FoSmeter H.</p> <p><b>Order code:</b> AMPN  <b>Dimensions (WxHxD):</b> 64 x 101 x 22mm  <b>Controls:</b> 1 x Power on/off switch;                      1 x Filter switch;                      1 x Gain switch.  <b>Indicators:</b> 1 x Power on LED;                      10 x field strength LEDs.  <b>Pink noise output level:</b> 400mV RMS  <b>Pink noise crest factor:</b> 4:1 approx.  <b>Pink noise output socket:</b> 3.5mm jack  <b>Battery requirements:</b> 1 x PP3</p>	 <p>The FoSmeter H combines the functions of the FoSmeter magnetic field strength meter (as detailed in column two) and a loop listening device in one unit.</p> <p>The 3.5mm jack socket on the side of the FoSmeter H allows conventional audio signals such as music or speech to be tested for distortion using Walkman-style headphones (not supplied). The headphones used must have an impedance level of at least 32 Ohms. Please note, the GAIN switch on the FoSmeter H is set to operate in low mode only to prevent interference from mains hum when listening to the loop signal.</p> <p><b>Order code:</b> AHHM/H  <b>Dimensions (WxHxD):</b> 64 x 101 x 22mm  <b>Controls:</b> 1 x Power on/off switch;                      1 x Filter switch;                      1 x Gain switch - set to operate in low mode only.  <b>Indicators:</b> 1 x Power on LED;                      10 x field strength LEDs.  <b>Loop listening output socket:</b> 3.5mm jack  <b>Headphone impedance:</b> &gt;32Ω  <b>Battery requirements:</b> 1 x PP3</p>

## ALSO AVAILABLE : THE PDA RANGE OF INDUCTION LOOP SYSTEMS

From a straightforward counter loop system for a post office or building society to a high quality assistive listening system for a church, theatre or seminar room, the PDA RANGE represents the widest range of induction loop systems in the UK. For ease of specification, purchase and installation, our systems come in a variety of cost-effective kit formats.

