

Technical Data Sheet

CANFORD PHASE CHECK SYSTEM

25-081 Phase Check System

DESCRIPTION

The Canford Phase Check System allows the user to verify signal polarity at each step of the signal transmission path in recording studios, theatres, sound reinforcement systems etc with easy handling and flexibility being the most important features of the test devices.

The test system consists of two separate units:

- (1) The signal generator
- (2) The indicator

Both units may use and process either electrical or acoustical signals thus being able to check microphones, split transformers, loudspeaker systems, cables and recording equipment.

The output of the generator may be adjusted by means of an indented pot whereas the input sensitivity of the indicator is selected by a mic-line switch.

On both units the user may select pin 2 to be of positive polarity. The generator's output (XLR-male) is floating balanced and may be used in unbalanced systems without problems as long as a bridge (short-circuit) between pin 2 and pin 3 is avoided, eg when testing loudspeaker systems using the generator's loudspeaker direct drive capability. The indicator may be used in a balanced or unbalanced mode.

FUNCTION

The signal generator generates a sequence of unidirectional pulses which are radiated through the internal loudspeaker or may be picked up at the generator's XLR output connector. After having passed the device-under-test the signal is fed either into the indicator's electrical input equipped with an XLR female connector or picked up using the indicator's internal condenser microphone.

The indicator processes the input signal and accesses the slope of the pulse being either positive or negative. The result of this process is displayed on the coloured display of the indicator.

INSTRUCTIONS FOR USE:

1 Loudspeaker polarity

The signal generator may be directly connected to the loudspeaker under test, since it's electrical output is capable of driving even low impedances with sufficient level. Should the generator's output be inadequate, eg due to high ambient noise levels, it may be connected to an amplifier with known properties to drive the loudspeaker. Signal level should then be adjusted to deliver a clean distortion free acoustic output. The indicator's mode selector switch has to be in it's MIC-INT position while the indicator's internal microphone has to be placed in the nearfield of the loudspeaker. In case of testing horn loudspeakers, the microphone should NOT be inside the horn, which holds true especially for bass-horns.

The result of the test process can be read now from the LED-display:

GREEN LED	flashing - "In Phase"
RED LED	flashing - Out of Phase"

2 Microphone polarity

The indicator's mode selector has to be in it's MIC-EXT position and the microphone connected to the input XLR connector. The generator's acoustic test signal is now picked up with the microphone-under-test placed in close proximity to the generator's internal loudspeaker. The sensitivity of the indicator of the indicator in it's MIC-EXT position is usually sufficient to test even unsensitive microphones using the test signal of the generator. In case of disadvantageous conditions, eg extremely unsensitive microphones or high ambient noise, an amplifier with known properties should be looped into the signal path either at the generator's output powering a known loudspeaker or at the input of the indicator thus amplifying the microphone signal.

In case the microphone-under-test is phantom powered an appropriate power supply has to be provided to supply phantom power for the mic-under-test.