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Manual
Audio-Video Phase Detector

Thank you for purchasing this high-precision measuring instrument, manufactured by CLEAR Components / Germany.

Generally

The audio-video phase detector is used to determine the correct phase position of the polarity (phase) of audio and video components.

This is necessary if, for example, multiple audio / video components are connected to a power strip. If the connected devices are not plugged in lying in the right phase, potential equalization currents can cause disturbances.

To avoid this, the devices should be connected correctly. Therefore it is necessary to determine the phase of the connected devices, to mark them, and connect them finally in the correct order. This is the only way to get optimal measurement results and the maximal audio and image quality of your components.

Application

The operating proves oneself obviously simple, because the device, which shall be tested, is plugged via power plug (Schuko plug or Euro plug) in the Audio-Video Phase Detector.
On that point, the device under test must be switched off (off) to ensure a proper measurement.

First, connect the device to be tested to the Audio Video Phase Detector. To start the measurement, switch on the phase detector via a toggle switch (toggle switch has to be switched to the front in the direction of the socket).

The green Power LED lights up and indicates operational readiness. In addition, one of the two red LEDs lights up steadily for indicating the position of the phase of the connected device.

To check, switch the audio-video phase detector off (toggle switch has to be switched in the direction of the ground jack at the front side of the device), plug the mains plug the other way around and switch on the phase detector again. The other red LED should light up.

Note:

If you check the device and the other red LED should not light up, the tested device is a double-pole connected device, that is to say that the measurement has to be done by using the enclosed ground cable.

See overleaf, under **Advanced application / ground wire**.

After the measurement, mark the mains plug at the side, where the red LED lighted up, with one of the enclosed red markers.

Advanced application / ground cable

Connect the enclosed ground cable with the banana plug to the banana jack of the audio-video phase detector. The other end of the ground cable is clipped with the alligator clamp to a ground pin of the device under test (*best RCA jack or similar*). Now, if the power plug is twisted again, the left or rather the right red test-LED should light up. Mark this side of the power plug as already described.

Info: The marked side of the power plug is the side on which the phase (electric current) is applied.

If you should not get a clear result in spite of the advanced application, the measurement tolerances of the tested device are too large for a possible phase / pole determination. This special case occurs very rarely, but should be mentioned, because this happens occasionally in practice. However, the functionality of the audio-video phase detector is not limited by this special case.

Connection to plug connector / socket

After you have marked the device to be tested according to the power plug, connect them ALL in phase, i.e. the marked plug sides, where the red test-LED of the audio-video phase detector lighted up, are lined up in a row in the plug strip.

Battery change

The audio-video phase detector is delivered with a built-in 9V block battery and is ready for use. Thus, about 1000 measurements are possible with a full charged battery. If the LEDs do not light up after a certain time when the audio-video phase detector is switched on, a battery change is needed.
To change the battery, the phase detector can be opened easily via the enclosed plastic disc without any screwdriver or wrench.
Insert the plastic disc at one of the long sides centered in the gap and turn it slightly until the casing opens. Fold the halves of the casing apart and exchange the drained battery with a new one. Close the casing by snapping both halves shut. The phase detector is closed, when a snapping-sound can be heard.

Battery Disposal:
Batteries must not be disposed in the domestic refuse. Please bring your used batteries to collection points for used batteries or to a public waste disposal authority or send them back to us.

Other

If you turn on the aud phase detector without plugged in power plug, the green power-LED and one of the red test LEDs will light up. This indicates a proper ready status.
Because of precise and very sensitive measurement components, it can happen (not during measurements) the test LEDs light up alternately or rather simultaneously, if the phase detector is moved violently. This is an visual indication the instruments work completely intact and not for a loose connection, as one might assume.