

SYNCHRONIZATION OF TWO OR MORE SEC AMPLIFIER SYSTEMS

For recordings with two or more switched mode amplifiers in the same preparation it is necessary to synchronize the current injection and voltage recording timing protocols to avoid artifacts and excessive noise. This is done by the synchronization inputs and outputs at the rear panel of the instruments based on a "master-slave" arrangement.

The MASTER instrument provides the clock frequency (from which the switching frequency is generated internally) for the SLAVE instruments.

The MASTER instrument has a BNC connector marked SYNC. OUTPUT (TTL). To this output the SLAVE instruments are connected by means of standard BNC cables.

The SLAVE instruments have a SYNC. INPUT (TTL) BNC connector and a toggle switch marked "INTERN / EXTERN". In the position EXTERN the instrument is used with the clock frequency of the MASTER instrument i.e. in SLAVE mode. In the position INTERN the instrument can be used independently of the MASTER instrument.

Warning: If this switch is in the EXTERN position and no signal is connected to the SYNC. INPUT BNC the switched modes of the amplifier (VC and CC) are not working (no switching frequency!).

In the EXTERN position and with the MASTER instrument connected, in both switched modes (VC / CC) the switching frequency is controlled by the MASTER amplifier. In this case current injection and sampling of current and potential signals is synchronous, therefore all artifacts are suppressed.

Important: All synchronized instruments must use the same duty cycle!

Literature:

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