

A method of synchronization of the seismic and seismo-acoustic measurement networks, in particular intrinsically safe mine networks is characterized in that in each transmission channel a measurement of time correction ( $2K_i$ ) of signal propagation from the receiver (OD) to the transmitter (ND) and back is periodically initiated. Then in the receiver (OD) phase-locked loop comprising a real time clock (RT), shifted second internal reference tact (TWa) is generated as a correction in the continuous mode, shifted forward of the time correction ( $K_i$ ) in phase relative to the second reference tact (TW) from a clock (GPS) with simultaneous forward shift of the internal time clock (RT) by the time correction ( $K_i$ ). Besides, in a continuous mode, the internal synchronizing tact (TSa) is generated (N) times, preferably 250 times more often, with forward shift of correction time ( $K_i$ ) in phase, relative to the second reference tact (TW), keying the output of supplying-separating inverter (PZ), intrinsically safely providing power to the teletransmission line (TR). The system designed for this method contains in a linear block (BL) of a receiver (OD) a semiconductor key (KL) of the receiver (OD) shorting a teletransmission line (TR), connected via an input transoptor galvanic separator (SG2) of the linear block (BL) to the output (b) of the microcontroller (MK). In a transmitter (ND) a forming block (UF) of synchronizing tact (TS) is connected via a capacitor (C) to a transmitter linear block (BLN). The output of the forming block (UF) is connected to one of the inputs of a phase detector (DFN) of the microcontroller of the transmitter (MKN). The transmitter linear block (BLN) contains the transoptor galvanic separators (SG3 and SG4) of signals.