The invention relates to automation and measurement technology and can be used in analogue-digital signal processing systems. The invention contains a signal amplifier, an integrating device, and a signal level amplifier based on operational amplifiers. An analogue key is installed between the signal amplifier and the integrating device. A capacitance is installed in the feedback loop of the integrating device. The signal amplifier, the analogue key and the integrating device are covered by a resistor feedback. The inverting input of the signal amplifier is connected to a grounded compensation resistor. The signal level amplifier is covered by a resistor feedback, and at the same time its inverting input is connected to the non-inverting input of the signal amplifier and the input resistor. The non-inverting inputs of the integrating device and the signal level amplifier are grounded. The technical result of the invention is to increase the speed of the device and to ensure that the input amplifier is not overloaded in the storage mode.