

The signal Sr4b operates the switch, which is used to ground the L.F. part of the input signal during offset calibration. This is done automatically to prevent drift.

The offset DAC circuitry (see figure 3.7) provides the offset voltage for operational amplifier N2201. The offset compensation is done automatically by means of the signals So10b...So14b, coming from the D-ASIC.

### L.F. Calibration

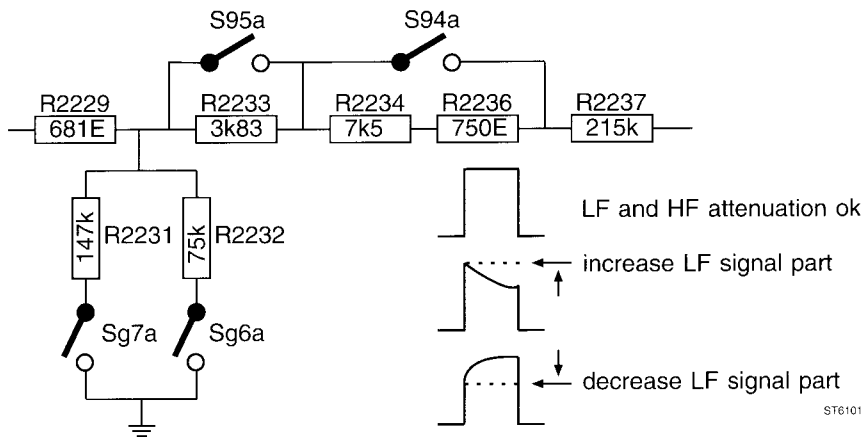


Figure 3.11 Automatic adjustment of the L.F. attenuation

Fine adjustment of the L.F. path attenuation is completed during calibration of the H.F. path attenuation. This is done by means of a simple 4-bits D-to-A converter, consisting of resistors R2229, R2231, R2232, R2233, R2234, R2236, and switches D2202. These switches are operated by signals Sg4a, Sg5a, Sg6a, and Sg7a, see figure 3.6. Resistors R2229, R2231 and R2232 divide the output signal of the attenuator section. Resistors R2233, R2234, and R2236 increase the input resistance of the inverting amplifier of the regulating loop.

### Feedback loop

The output signal of the impedance converter is fed back to the input of operational amplifier N2201, with the signal coming from the L.F. calibration section (via R2237) and a DC position voltage (via R2248), proportional with the MOVEMENT of the trace (via R2248). Transistor V2210 is used to enlarge the dynamic range: when D-POSCHA is active, R2270 is incorporated in the circuitry.

The feedback loop operates as follows. If, for example, the output signal of the L.F. path is too small, the correction amplifier N2201 will drive V2207 via V2208. In this way the amplitude of the L.F. path and the position voltage are increased (compensation).

### Input protection

The input protection safeguards the ScopeMeter against overvoltage. The input protection circuit consists of C2203 and V2206/V2204 (clamp HF attenuator) and R2219 and V2212/V2213 (clamp LF attenuator).