

3.4.7 GENERATOR circuit

- Introduction

See figure 3.14.

The ScopeMeter has a built-in signal generator, which can produce the following signals, used to adjust the probes:

- square wave voltage, amplitude: 5V peak-to-peak
- frequency: 976 Hz
- DC voltage: 3V

ScopeMeter model 97 can also produce:

- sine wave voltages, amplitude: 5V peak-to-peak
- frequency: 976 Hz
- square wave voltages, amplitude: 5V peak-to-peak
- frequencies: 488 Hz
- 1.95 kHz
- slow ramp voltage, -2V...+2V
- slow ramp current, -3 mA...+3mA

The signal generator uses a square wave voltage, coming from the D-ASIC to generate the various signals. The circuit consists of an operational amplifier, a fourth order filter, and a current source. The configuration can be changed by means of programmable switches to produce different output signals.

- Detailed circuit description

See figure 3.16 and circuit diagram A2b (figure 10.6).

Figure 3.16 shows the basic generator circuitry:

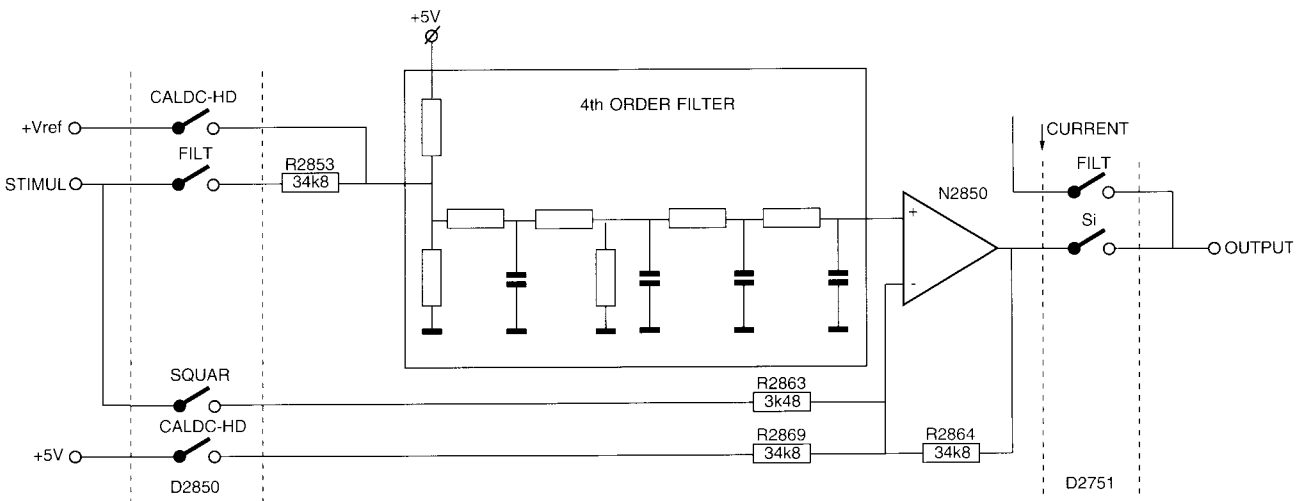


Figure 3.16 Basic generator circuitry

This circuit uses a square wave voltage, STIMUL, coming from the D-ASIC. This signal has an amplitude between 0V and +5V. The duty cycle of the square wave signal is varied depending on the signal to be generated. The reference voltage +Vref is used to generate the DC voltage.