***ADC***
The output signal SNGOUT (pin 18) of the A-ASIC is fed to the
8-bit Analog Digital Converter TDA 8703. This component operates on a 25 MHz clock signal. The
signal TRACKN is delayed to compensate for the internal signal delay in the A-ASIC (behind the
Track & Hold section) and is fed to ADC pin 17.

The ADC provides for the reference voltage needed by the A-ASIC. This reference voltage is derived
from the ADC. VREF is made of the voltages on pin 4 (VRB = Reference Bottom Voltage: +1.5V) and
pen 9 (VRT = Reference Top Voltage: +3.5V) of the ADC. During normal operating conditions this
reference voltage, VREF, is +2.5V (+/- 3.6%, ref. to ground). VREF is adjusted with potentiometer
R2346, marked "OFFSET" and can be measured between TP331 and ground. The sensitivity of the
ADC is adjusted with R2347, marked "GAIN". These calibrations are described in chapter 5, section
5.6.1: "Hardware SCOPE Calibration Adjustments".

The 8-bit output of the ADC: ADC0...ADC7 is connected to the Digital ASIC on the digital A1 PCB.

## 3.4.6    ANALOG CONTROL CIRCUIT

### - Introduction
See figure 3.13.

The various sections of the ScopeMeter, situated on the analog A2 PCB, are controlled by the
microprocessor on the digital A1 PCB. This is done by means of the CCLK (serial clock), CDAT (serial
data) and DTAE (data-latch) lines. This bus system creates several control signals, which for example
drive the relays switches in the attenuator sections.

### - Detailed circuit description
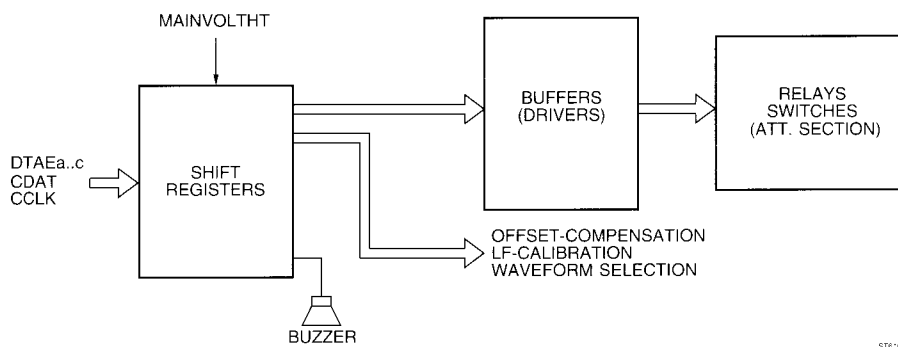See figure 3.13 and circuit diagram A2a (figure 10.5).



*Figure 3.15  Schematic diagram analog control circuitry*

Each shift register transforms the serial signal CDAT into 8 parallel control signals. This is done by
means of the serial clock signal CCLK and the data-latch signals DTAEa, DTAEb and DTAEc. The
control circuitry comprises two series of cascaded shift registers: D2907-D2908-D2909 (24 signals)
and D2904- D2906(16 signals).

The signals, that are made by the shift registers, are used:

-    to control the buffers (D2901 / D2902 / D2903), which drive the relays in the attenuator section.
-    for offset compensation (A-RANGE and B-RANGE) in the attenuator sections.
-    for L.F.-calibration (A-OFFSET and B-OFFSET) in the attenuator sections.
-    to select the waveform in the signal generator section (sinewave/squarewave/DC).
-    to drive the buzzer (beeper).