

## **3.4 ANALOG CIRCUITS (A2)**

### **3.4.1 Introduction**

This paragraph describes the circuits on the analog A2 PCB in detail. Refer to circuit diagrams A2a, A2b, and A2c (figures 10.5, 10.6, and 10.7 in chapter 10).

### **3.4.2 Overview analog circuits**

The analog A2 PCB contains several functional parts:

- circuits in the acquisition path
  - attenuator sections
  - EXTERNAL (banana) input/output circuitry
  - Analog ASIC and ADC circuitry
- control circuitry
- signal generator
- power supply and battery charger

Each of these parts will be described separately. First a short introduction is given, followed by a detailed description.

### **3.4.3 ATTENUATOR sections, CHANNEL A and B**

#### **- Introduction**

See figure 3.7.

The attenuator sections of both channels A and B are identical. In the following only channel A is described. The corresponding components for channel B have the same numbering, except the second number, which is '1' instead of '2'. For example: R2202 in channel A corresponds with R2102 in channel B.

The attenuator section consists of a high frequency (here after referred to as H.F.) path and a low frequency (here after referred to as L.F.) path, which are combined again in the impedance converter (see figure 3.7). To get a flat frequency characteristic, both paths must overlap over a wide frequency range. Circuits are provided for automatic offset compensation.

The output of the attenuator sections of channel A and B is processed further by the A-ASIC.