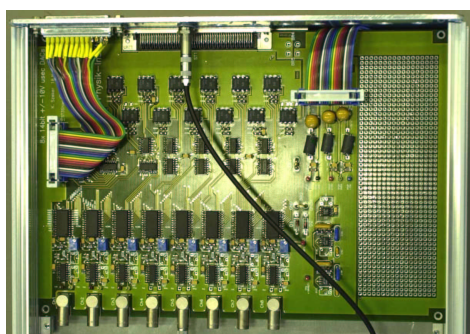


## 17 Electronics Workshop

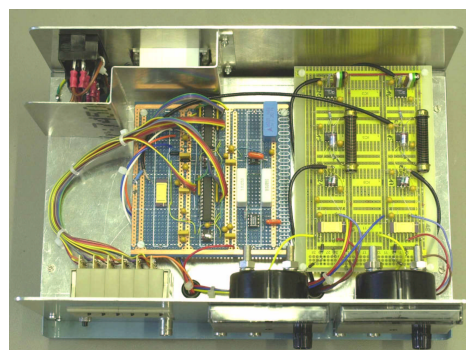
W. Fässler, H.P. Meyer, P. Soland, K. Szeker

All research groups presented in this report require the electronics workshop for maintenance and repair of their electronic equipment. If necessary the repair in the official service centers is organized. Besides modifications to existing modules and construction of simple circuitry for the various laboratories the main effort went into the following three projects:

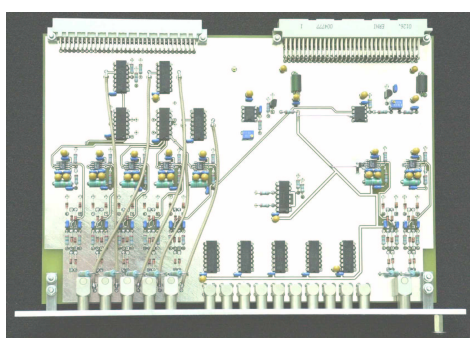
- We designed and manufactured trigger modules for the H1 CIP upgrade (Group Straumann and Truöl, see Section 6.2.2) and the LHCb experiment (Group Straumann, see Section 9). We were also involved in the production of the new series of CIP readout electronics.
- For the laboratory of Physics of Biological Systems (Group Fink, see Sec.14) we designed and built several modules which are used to control the experiments. Some of them are shown below.
- Another interesting project in which the electronics workshop is engaged is the replacement of equipment used for demonstration experiments in the lecture halls. In close collaboration with L. Pauli and J. Seiler who are responsible for the preparation of these experiments we are about to replace the ancient equipment with a computer controlled system with associated interface electronics. This new system is very flexible and the experiments and the measured data can be presented in a more transparent fashion.



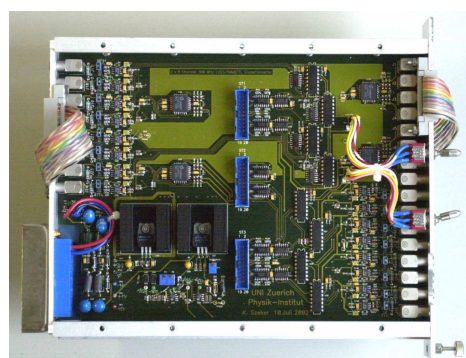
*Digital to analog converter ( $8 \times 14$  bit) used for the piezo drive in the Physics of Biological Systems laboratory.*



*Digital to analog converter module which adds a programmable offset voltage in the range of  $\pm 10$  V to a given input level.*



*STC trigger card for the H1 experiment.*



*LVDS, TTL and NIM signal cross converter module.*

Figure 17.1: *Some modules produced in the electronic workshop*