

A large Time Projection Chamber (TPC) is proposed as part of the tracking system for a detector at the future electron positron linear collider. The Linear Collider TPC (LCTPC) Collaboration is currently building a large TPC prototype (60 cm long, with an outer radius of 77 cm), offering some modularity to investigate various gas amplification systems (GEM or MICROMEGAS), pad sizes and geometries as well as different read-out systems.

We present the new read-out system developed for this large prototype. It is based on the read-out electronics of the ALICE experiment at the LHC but several modifications have been necessary to adapt it to the expected output signals from the gas amplification systems, including a new programmable charge amplifier. Another key component of the read-out system is the fast analog-to-digital converter ALTRO chip, developed by ALICE, which will digitize the TPC signals with a sampling frequency of 25 or 40 MHz. The endplate proposed for the prototype will have small pads, typically  $1 \times 5 \text{ mm}^2$ , much smaller than the effective area occupied by the front-end card (FEC) per channel. Therefore the FEC's will be connected to the charge amplifier through high density kapton cables. The readout software will be based as well on the ALICE system, but modified and extended for this TPC application. The control software is however newly developed. Finally a new trigger logic unit has been developed to send the trigger signals and the clock to the FEC and to allow to test the TPC with particle beams together with other subdetectors.

The large prototype and its data acquisition system will be tested in a large scale (10,000 channels) in a 6 GeV/c electron beam at DESY (Hamburg) in summer 2008. In the presentation we will describe the TPC data acquisition system, enlightening the novelties and the modifications with respect to the ALICE system. We will also report on the performance of the DAQ system.