Differences between new ADB96/CMP16 (1999) and previous AD96 PCBs (1996).

The new Anode 96-channels front-end card ADB96/CMP16 was developed for the new improved 16-channels Amplifier-Discriminator chip CMP16. The main differences of this design from previous are listed below:

1. The ADB96/CMP16 card has 8 wire layers (AD96 had 6 layers). Two of them are ground and power planes. It allowed to get following improvement (see the next point).

2. All output signals goes from chip to connectors on internal levels, surrounded by ground planes. It reduces parasite connections of output and very sensitive input chains.

3. On both top and bottom sides of the board there are only three chips (There were 6 chips put in line on top side of the AD96 card). Such a placement also reduces parasite pickup to inputs of one chip from outputs of others. It has become possible through SMP (Surface Mounting Package) of the new chips. The previous ones were in through-hole package.

4. One chip is connected to one input 34-pins connector, so it serves one protection board. In the previous board one chip was connected to two protection boards.

5. Driving and control of the ADB96/CMP16 are carried out through JTAG interface of LVDS signal levels.

6. Through JTAG there is a possibility
   to write down:
   - 6 thresholds;
   - Test pulse amplitude;
   - Delay setup for each of CMP16 chips;
   - Test pulse applying configuration. Test pulse can be put on any CMP16 chip independently (*).

   to read out:
   - 6 thresholds (*);
   - Test pulse amplitude (*);
   - Temperature (*);
   - Board consuming current (*);
   - 11-bits board ID number (*).

7. ADB96/CMP16 boards can be joined in JTAG-LVDS daisy chain.

(*) - New feature.