

INTERFACE FOR THE KK009/KK012 CAMAC CONTROLLERS IN THE PCI STANDARD

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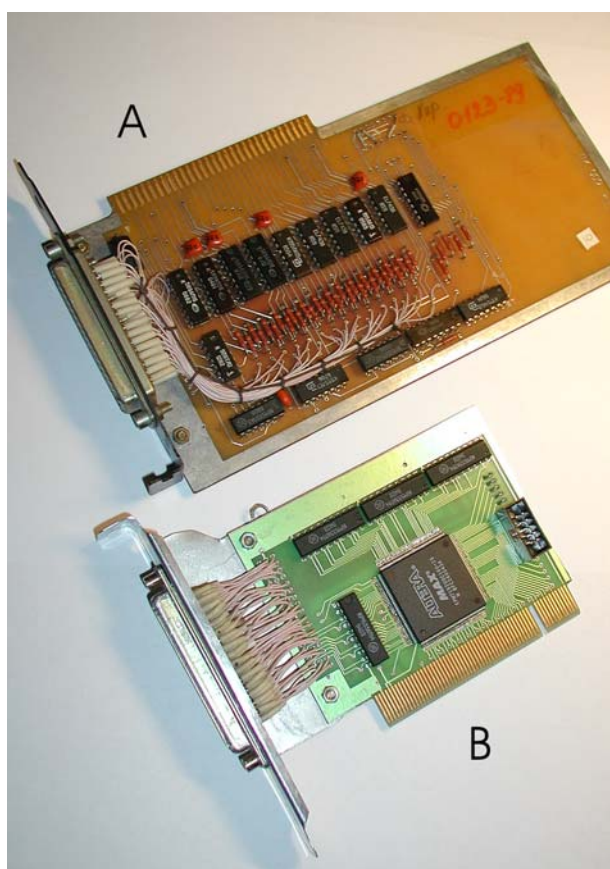


Fig.1 The old PK009-PK012 controller for an ISA bus (A) and the new one for a PCI bus (B)

The CAMAC crate controllers KK009-KK012 were developed in the JINR¹⁾ more than 10 years ago and still can be purchased. These controllers can be connected to the IBM PC/XT/AT using appropriate ISA interface cards PK009-PK012 (Fig.1, A).

However, modern PC's motherboards are supplied by the PCI slots only and the ISA standard is now obsolete. For this reason the new universal PCI interface card PCIK009/12 has been developed in the FLNR (Fig. 1, B). This card is intended for the KK009-KK012 crate controllers instead of the old PK009-PK012 ISA interfaces within the data acquisition systems on the base of the modern PC. This card is based on the MAX series ALTERA programmable logic microchip type EPM7192SQC160-15. Moreover, it facilitates

the systematical upgrade of the system and applications of available software solutions, permitting to change the hardware configuration of this interface card accordingly to the special end-user requests.

This card provides Plug-and-Play possibilities; upon the start of PC the BIOS POST will assign the appropriate available base address automatically and the free IRQ number. These settings can be read from the PCI configuration space. Under condition of using ones in the program configurations this card is fully compatible with the old software written for the PK009-PK012. At the same time, the new PCI interface card provides the faster execution of the CAMAC functions as the old one: $1.7\mu\text{s}$ instead of $4\text{--}6\mu\text{s}$ for the PK009-PK012. The new PCI card has the same plug and, hence, the connection cable between the PK009-PK012 interface card and the CAMAC controllers can be used with the new PCI card without any changes.

The application area of this new PCI card is very wide since about 4000 KK009/KK012 CAMAC controllers were manufactured in the JINR

The new interface card PCIK009/12 will be used, in particular, within the FOBOS data acquisition system together with the PCI-VDB card developed recently²⁾. An additional actualized technical and contact information is placed onto the FOBOS web-server <http://fobos.jinr.ru> into the section "Solutions".

REFERENCES

- 1) Antyukhov V. A. et al. Digital CAMAC Modules (Issue XV), P10-87-928, JINR, 1987.
- 2) Yu.B.Semenov et al. "Heavy Ion Physics" FLNR JINR scientific report 1999-2000, Dubna, 2001, Ed. by A.G.Popeko, E7-2001-173, p.196