

*The completed contractual scientific and research work № 1-09 “Commutations System of Multifilamentary Exchange Lines Development” – Research Advisor A.I. Petrenko*

The analysis of existing Multifilamentary exchange optical commutation lines technologies has been conducted. Sustainability of broadband frequency multiplexers and optical splitters usage for the most effective construction of exchange systems has been justified. The structures of multifilamentary optic commutation lines and software management system have been developed. The complex lab research of equipment has shown that the developed system complies with international standards; thus, the implementation of the developed system can reduce the number of optical exchange lines, joined to the object due to their effective commutation and in some cases it can lead to complete refusal to construct new fibre-optic commutation lines but only modernise exchange equipment, which costs much cheaper.

The results of the research have been used in the construction of commutation systems of multifilamentary exchange lines by the Internet providers of closed joint-stock company “Datagroup” and closed joint-stock company “Intercom”, for connecting subscribers-residents of apartment buildings to high-speed Internet over optical lines.