

# A Cable Layout Plan for a CATV System

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## - ABSTRACT -

We address the problem of designing a physical CATV network with switched-star topology in which the broadband interactive service is provided. There are two types of decision variables : One is where to place conduit paths, and the other is how many cable units to be installed on each link traversed by an established conduit path. Due to the serious drawback of the conventional approach partitioning the problem into two subproblems, the unified approach handled in one setting is used here to attack the whole problem without dividing into two ones. In this paper, we present a mathematical design model and propose an efficient solution method exploiting the nice structure of it. In addition to this physical design, some results on logical network configuration have also been made. Finally, computational experiments are conducted to illustrate the efficiency of our design approach.