

PROJECT REPORT

Project Submitted by
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Design of the electrical and Telephone Services of a block of offices and to provide working drawings for the above installation, which include the following:

- a) Telecommunications
- b) Power
- c) Lighting

In part Satisfaction of the award of Diploma of Technician engineer in
Electrical Engineering of the
**HIGHER TECHNICAL INSTITUTE
CYPRUS**

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Part I

• INTRODUCTION

'Mr. Watson come here, i want you', Alexander Graham Bell, a native of Scotland, while conducting electrical experiments spilled acid on his trousers. His employee Thomas A. Watson rushed to the room Bell was not only because of his employer's distress, but because the words had been carried by electricity into Watson's room and reproduced clearly on his receiving set.

Telecommunication started on that day, on March 10, 1876. Although the simple instrument being tested on Court Street in Boston wasn't very practical (the acid was used in the system), but improvement followed so rapidly putting into action Bell's concept of a public telephone network - "this grand system...whereby a man in one part of the country may communicate by word of mouth with another in a distant place" - was well underway by January of 1878, when the first commercial exchange was operated in New Haven. By 1907, one hotel alone (the Waldorf Astoria in New York City) had 1,120 telephones and processed 500,000 calls per year. Today, telecommunications is a multibillion dollar industry employing well over one million people. This modern network handles voice and data communications efficiently and reliably in even the most remote locations. Six years later the first step of telecommunication, first Regulations are decided among the scientists concerning the Electrical Installations (1882 - Rules and Regulations for the prevention of fire arising from Electric

Lighting). The electrical and telephony installation are changing people's lives. In the new millennium telecommunication technology seems to progress beyond our expectations.

The object of this project is to carry out a complete planning of a telephone distribution and electrical installation of a multistory building used by companies. The external and internal distribution network, the position of distribution cases and telephone points, the telephony system, the route of conduits are shown on various drawings. Also the topographical plans, the conduit and wiring diagrams, the list of connections, the regulations from the Authorities that change often, the paramount plan of the authority to provide from 10/3/2000 underground access for every new building are explained and shown in the project.

Before entering directly into this subject it would be inevitable to mention some general information about the external line plant, and the definitions of the terms used. A telephone system is not only the electrical transmission of speech but combines also facilities for signaling and switching. To achieve this we need terminal equipment (telephones), the transmission path (cables, microwave links, fiber optics etc) and switching facilities (exchanges). In practice the switching necessary to connect any given subscriber to another in the same telephone area is carried out at the local telephone exchange which also provides circuits and equipment whereby signaling to and from the exchange can be carried out. The

switching is carried out automatically on the reception of dialing pulses by means of electromechanical or electronic switch gear at the exchange.

In the case of a call between distant points or between points of large city, more than one exchange may be involved so that lines have to be provided between exchanges. All telephones are connected to their nearest exchange by the external line plant which is provided by CY.T.A(Cyprus Telecommunication Authority) and so interconnection of any two desired telephones can be made.

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