#### FIRE ALARM SYSTEM FOR A TOWN HALL

Project Report Submitted by:

Evelthontos Evelthon

In part sutisfanction of the award of Diploma of technician engineer in the field of electrical engineering of the Higher-Technical Institute;

Project Supervisor: Mr E.Michael

B.Sc. Elec.

Lecturer

H.T.I.

External Assector:

Type of Project: Individual 
Group

JUNE, 1989.



### **ABSTRACT**

The design of a fire alarm system is the major headache of the modern design engineers related to the subject. It is indeed very important to have a successfully functioning fire alarm system but the factors governing it are so many that if the design is not based on a correct and effective planning, finally we are going to end up in a mess.

The present study deals with the theory of the relevant parts; detectors, control panels, extinguishers, emergency lighting, door realise units, etc. Full understanding of the above principles is extremely important to enable correct and wise design of a fire alarm system. Additionally, the design engineer should be familiar to the laws and international regulations concerned with such systems.

The above pattern has been adopted in the present study. The results are listed in the following pages from which it is finally concluded that the design is considered effective and practically useful.

The reader should come across definitions and detail explanations of circuits and device operation but in any case, from the architectural drawings it can be easily seen that the system is simple and straightforward based on healthy bases.

E.Evelthontos June, 1989

# CONTENTS

Αc	know	1	ødq	emen	t.	5
----	------	---	-----	------	----	---

Abstract

Introduction

## CHAPTER 1 : Theory

1.1	Basic Information on Early Warning Fire Detectors	Ï.
1.1.1	Introduction	1
1.1.2	Detectable Effects of Fire	1.
1.1.3	Recommended Detection Techniques	3.
1.1.4	Detectors	4
1.1.5	Effects of Environment on Detectors	7
1.1.6	Influence of the Detectors on Films	14
1.1.7	Detection of P.V.C. Fire	14
СНАРТЕ	ER 2 : System Design	
2.1	Introduction	16
2.2	General Planning	17
2.3	Fire Protection of the Specific Building (Town Hall)	1.7
2.5.1	Fire Alarm System	19
2.3.2	Halon Fire Fighting System	29

## CHAPTER 3 : Practical Part

3.1	General Investigation of the Areas to be Protected	44				
3.2	Separation of Zones	44				
3.3	Basement	44				
CHAPTER 4						
4.1	Comments / Conclusions	53				

Appendix 1 : Data Sheets

.