

# National Burglar & Fire Alarm Association Central Station Training Course Syllabus

## A. Course Description

This class is designed for staff and business owners who seek an overview of the alarm industry and the role of the central station operator in it. In 8 hours of intensive instruction followed by a 1 hour examination, this program provides an overview on the theory and monitoring of alarm systems.

## B. Number of Classroom Hours

The Central Station Training course has eight (8) contact hours.  
Subject areas will be covered as follows:

1. Introduction	.25 hours
2. Alarm Industry Overview	.5 hours
3. The Central Station	.5 hours
4. Computers	.25 hours
5. Phone Systems	.25 hours
6. Signal Types	.5 hours
7. Central Station Procedures	1 hour
8. Customer Service	.5 hours
9. False Alarm Prevention	1.25 hours
10. Communications Methods	1 hour
11. Control Panels	1 hour
12. Sensors	1 hours
13. Examination	1 hours

## C. Overall Goal of the Course

To point out the general concepts of the electronic security and alarm industry to the student including;

- the operation and application of commonly used equipment and components,
- industry standards and legal requirements,
- the importance of reducing false alarms, and
- the students role in the industry.

## D. Overall Learning Objectives

Each attendee will

- Describe the basic elements of the electronic security field including: Sensors, Control Panels, Communications, False Alarm Prevention, and central station equipment.
- Describe typical equipment used in a central station.
- Point out common procedures used to monitor alarm systems.
- Identify the proper devices to be used with perimeter, space and fire protection systems.
- Identify the various types of control panels and review how to select a control based on the application.
- Compare electronic communications methods.
- Illustrate the importance of false alarm prevention and of the relationships and interactions between the electronic security and alarm professional and law enforcement and fire prevention officials.

## E. Topical Learning Objectives

Each attendee will;

## **1. Introduction**

- Discover the purpose of the program.
- Identify the role of the student in the training program.

## **2. Alarm Industry Overview**

- List the types of systems commonly sold.
- Describe the various types of people involved in the industry.
- Indicate major events in the history of alarm security.
- Identify the objectives of alarm systems.
- Identify basic alarm system components.
- Show the burglary threat.
- Cite the fire threat.
- List some major industry associations.

## **3. The Central Station**

- Restate the purpose of a central station.
- Indicate the importance of security of the central station.
- Define redundancy.
- Describe a signal.
- Show how signals reach the central station.
- Point out what happens to signals at the central station.
- Identify common types of equipment used in the central station.

## **4. Computers**

- Describe what a computer is.
- List types of computers in use today.
- Compare hardware and software.
- Identify types of software.
- Point out what can be done with computers.
- Discover computer hardware.

## **5. Phone Systems**

- List types of phones.
- Describe how phone line work.

## **6. Signal Types**

- List the steps in signal processing.
- List types of signals.
- Compare types of signals.

## **7. Central Station Procedures**

- Discover the role and responsibilities of the operator.
- List the functions of a central station.
- Describe the impact of time and time zones.
- Identify the organizations that develop industry standards.
- Identify the relationship between the AHJ and fire system design.
- Describe the value of standards.
- Describe the process of data entry.
- Compare procedures to process different types of signals.
- Describe verification.
- Point out how to handle customer requests for service.
- Describe procedures to dispatch a guard.

## **8. Customer Service**

- Point out the importance of customer service.
- Describe how to build the company image.
- Recall some listening skills.
- Cite some call handling procedures.
- Point out ways to deal with stress.

## **9. False Alarm Prevention**

- Define a false alarm.
- Relate the impact of false alarms on police and fire departments.
- Identify how false alarms are caused.
- List things alarm dealers can do to prevent false alarms
- State the importance of user training.

## **10. Communications Methods**

- List the purposes of communication.
- Compare central stations, monitoring stations, proprietary monitoring & police department facilities.
- Compare Direct Wire, Direct Connect and McCulloh.
- Describe digital communicators.
- List the potential problems with digital communications.
- List the potential solutions of digital communications.
- Describe programming.
- Describe long range radio.

## **11. Control Panels**

- Name the four components of alarm systems. (detection, control, annunciation & transmission)
- List the functions of control panels.
- Compare hardwire to wired system.
- Describe partitions.
- Compare types of user controls.
- List some uses of circuits.
- Identify types of annunciators.
- Identify types of sounding devices.
- Describe battery stand-by time.
- Describe audio monitoring systems.

## 12. Sensors

- List types of sensors.
- Define the four stages of fire.
- Match the proper detector to the stages of fire.
- Describe the operation of;
  - fixed temperature heat detectors.
  - rate of rise detectors
  - ionization smoke detectors.
  - photoelectric smoke detectors.
  - beam smoke detectors.
  - duct smoke detectors.
  - pull stations.
- List some holdup devices
- Identify the objective of a perimeter device.
- Relate the role of space detection.
- Show how sensors can be disguised.
- Contrast a magnetic mechanical switch with a magnetic reed switch and a balanced magnetic reed switch.
- List some common detection devices
- List some common miscellaneous sensors.

## F. Topical Outline

### 1. Program Introduction

- What is the National Training School
- Central station program overview
- What is the purpose of the program?
- Program objectives
- Impact on student
- Why does a electronic security employee, police, fire, consumer need to know this information?
  
- How does it benefit the student, company, industry, customer, police, fire, government?
- The role of the supervisor
- The students role in the training
- Conclusion- summary

### 2. Alarm Industry Overview

- Introduction to alarm systems
- Industry history
- What are common types of systems?
- Common jobs in the security industry
- What is a central station?
- What is the role of the operator?
- Security industry history
- What is the burglary threat?
- What is the fire threat?
- Burglar alarm objectives
- Fire alarm objectives
- Common objectives
- What is an alarm system
- Detection vs. Protection
- Local vs, Monitored

- Concepts- control, power, sensors, keypads, sounders
- System layout- design features
- Monitoring options
- Communications concepts
- Residential- commercial
- Industry organizations

### **3. The Central Station**

- What is a central station?
- Central station security
- Redundancy
- What is a signal?
- How do signals reach the central station?
- What happens to the signals at the central station?
- Central station equipment
  - Equipment
  - Power equipment
  - Receivers
  - Voice recording

### **4. Computers**

- What should an operator know about computers?
- What is a computer?
- Types of computers
- Hardware vs. software
- Types of software
- What can be done with computers?
- Understanding computer hardware
  - CPU speed
  - Input & output devices
  - storing information

### **5. Phone Systems**

- Types of phones
- How phone line work
- SLC
- Call Waiting

### **6. Signal Types**

- Signal processing steps
- Types of signals
  - General signal types
    - Fire
    - Holdup-Emergency
    - Burglary
    - Process or condition
  - Signals common to all categories
    - Trouble Signal
    - Test Signal
    - Fail to test
    - Communications failure

- AC fail
  - Low battery
  - Restore signal
- Fire Signals
  - Supervisory Signal
- Holdup- Emergency
  - Holdup
  - Emergency- Panic
  - Ambush
  - Duress
  - Medical Signal
- Burglary Signal
  - Abort or Cancel Signal
  - Bypass signal
  - Exit alarm
- Opening/ Closing.
- Process - Environmental

## 7. Central Station Procedures

- Operator Role- Responsibilities
- Central station functions
  - Reading & interpreting signals
  - Dispatching the authorities
  - Customer notifications
  - Documentation & record keeping
  - False alarm prevention
  - Customer satisfaction
- Time
  - Time Zones
- Industry Standards
  - AHJ
  - Approved , accepted, listed
  - Shall vs should
  - Value of standards
  - Company standards
- Data entry
- Signal processing
  - Alarm priority
  - Alarm verification
  - Alarm notification
  - Alarm dispatching
  - Trouble signal processing
  - Openings & closings
    - Passwords/passcards
  - Cancellation
- Customer requests for service
- Dispatching a guard

## 8. Customer service

- Importance of customer service
- Company image
- Listening skills
- Handling calls

- Dealing with customers
- Dealing with stress

## 9. False Alarm Prevention

- What Is A False Alarm?
- What is the impact of False Alarms?
- Do alarms deter burglaries?
- What do false alarms cost?
- Why should alarm dealers care about false alarms?
- Police attitude on false alarms
- Causes of false alarms
- What alarm dealers can do
- What police and fire departments can do
- User training

## 10. Communications Methods

- Communication History
- Objective of communications
- Monitoring options
- Communications Methods
  - Direct Wire
  - Direct Connect
  - McCulloh
  - Tape
  - Multiplexers
  - Digitals
    - How it works
    - What happens at the central station?
    - Types of communicators
    - Understanding receiver formats
    - Potential Problems
    - Multiple Solutions
      - Line fault monitors
      - Multiple phone lines
      - Test signals
      - Derived channels
      - Cellular
      - Digital communicator enhancements
        - Listen-in
        - Two way voice
        - Caller ID
- Radio

## 11. Control Panels

- What does the control do?
- Control panel components
- Hardwire
- Wireless
- Line carrier
- Partitions

- User control points
  - Keypads
  - Integrated control-keypads
  - Keyswitches
  - Touchscreens
  - Telephone control
  - Computer control
- What is a detection circuit?
  - What is a zone?
  - Why zone a system?
  - Point annunciation
  - Cross zoning
  - Labeling
- Burglary detection circuits
  - Entry delay
  - Exit delay
  - Delayed vs instant
  - Perimeter vs instant
  - Home vs away
  - Interior follower
- Fire circuits
- Panic & emergency circuits
- Ambush, duress, holdup circuits
- Condition monitoring
- Circuit options
- Visual annunciators
  - Strobes
  - Other
- Types of audibles
  - Bells
  - Self contained siren
  - Horns
  - Speakers & voice drivers
- Audible time-outs
- Secondary power
- Audio systems

## 12. Sensors

- Types of sensors
- Fire
  - Concepts
  - Heat
  - Smoke
  - Other
  - Manual
  - Sprinklers
- Holdup
- Burglary
  - Concepts
    - Perimeter
    - Motion or Space
  - Perimeter devices
    - Magnetic
    - Reed

- Balanced
- Foil
- Shock Vibration
- Mercury
- Piezo
- Screens
- Mechanical
- Fence and Field
- Pressure
- Proximity
- Space detection devices
  - Photoelectric
  - Ultrasonic
  - Microwave
  - Passive
  - Audio
  - Infrasonics
  - Pressure Mat
  - Stress
  - Combined
- Miscellaneous Sensors
  - Temperature
  - Moisture
  - Process
  - Power

## **G. Method of Presentation**

### **1. Lecture**

At least one instructor presenting the material following the instructor guide and the slide presentation combined with question and answers throughout the course to verify and reinforce comprehension and relate the material to the students particular needs.

### **2. Audio Visual Aids**

- Slide presentation
- Reference book

## **G. Method of Evaluation**

### **1. Written examination**

A twenty five (25) multiple choice question exam is given at the conclusion of the course. Seventy percent (70%) correct answers required to pass.

2. Course is reviewed and revised annually by experts designated by the National Burglar and Fire Alarm Association education and training committee.

3. Students complete written evaluation of each course and each instructor. Instructors are evaluated by the designated class leader at each class.

## **H. Qualification of Instructors**

### **1. Concept**

Our program succeeds through individual instruction in the art of teaching by experienced instructors, essentially a train the trainer concept. Instructor candidates add to that training by fully participating in two classes. They are evaluated by existing instructors and by the class during each of these classes. Upon successful evaluation they will be certified by the Director of Education and Training as National Training School (NTS) Instructors. An individual

individual can be an instructor in only one particular program or in several programs depending on their individual qualifications and desires.

## 2. Selection Criteria

Individuals selected for the Certified Training Instructor (CTI) Program must be graduates of an NTS program, and pass an instructor candidate examination. Instructors must be technically competent, know their subject matter and be able to communicate. All Instructors will be recruited by the State Training Coordinators to become NTS CTI's based on their technical competence and their potential to effectively present the class material.

## 3. Administration and Grading of Examination

The examinations must be administered in person by a member of the Education and Training Committee, the State Training Coordinator, the Director of Education and Training or his designee. The examination will be graded by the Director of Education and Training.

## 4. Instructor Candidates

Individuals who have completed the required application, attended the entire particular course, passed the student examination for the particular course and passed the appropriate instructor examination for the particular course are considered Instructor Candidates for that particular course. Instructor Candidates are eligible to teach the course under the guidance and supervision of a Certified Instructor or Certified Senior Instructor. When sufficient instructors are not readily available, the Director of Education and Training can accept on a case by case basis equivalent experience in lieu of the course attendance or examination requirements.

## 5. Certified Instructors

To become Certified Instructors, Instructor Candidates must successfully student teach at least four (4) hours of a program, receive positive evaluations from the students and receive positive evaluations from an observing Certified Senior Instructor or Certified Instructor and be approved by the Director of Education and Training.