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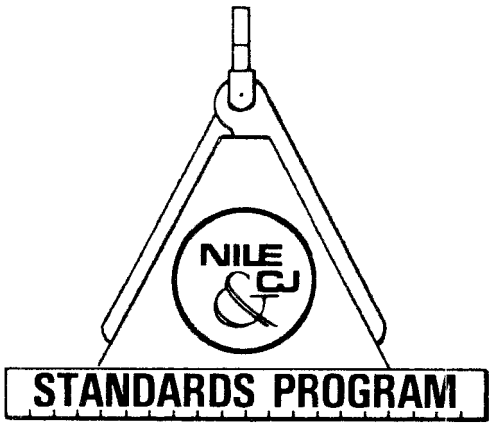
LAW ENFORCEMENT STANDARDS PROGRAM

TERMS AND DEFINITIONS FOR INTRUSION ALARM SYSTEMS



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LAW ENFORCEMENT STANDARDS PROGRAM

TERMS AND DEFINITIONS FOR INTRUSION ALARM SYSTEMS

prepared for
National Institute of Law Enforcement and Criminal Justice
Law Enforcement Assistance Administration
U.S. Department of Justice

by

G. N. Stenbakken
W. E. Phillips
Electronic Technology Division
and
S. E. Bergsman
Technical Analysis Division
National Bureau of Standards

OCTOBER 1974

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LAW ENFORCEMENT ASSISTANCE ADMINISTRATION

Richard W. Velde, *Administrator*
Charles R. Work, *Deputy Administrator*

NATIONAL INSTITUTE OF LAW ENFORCEMENT AND CRIMINAL JUSTICE

Gerald M. Caplan, *Director*

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FOREWORD

Following a Congressional mandate* to develop new and improved techniques, systems, and equipment to strengthen law enforcement and criminal justice, the National Institute of Law Enforcement and Criminal Justice (NILECJ) has established the Law Enforcement Standards Laboratory (LESL) at the National Bureau of Standards. LESL's function is to conduct research that will assist law enforcement and criminal justice agencies in the selection and procurement of quality equipment.

In response to priorities established by NILECJ, LESL is (1) subjecting existing equipment to laboratory testing and evaluation and (2) conducting research leading to the development of several series of documents, including national voluntary equipment standards, user guidelines, state-of-the-art surveys and other reports.

This document, LESP-RPT-0305.00, Terms and Definitions for Intrusion Alarm Systems, is a law enforcement equipment report prepared by LESL and issued by NILECJ. Additional reports as well as other documents will be issued under the LESL program in the areas of protective equipment, communications equipment, security systems, weapons, emergency equipment, investigative aids, vehicles and clothing.

Technical comments and suggestions concerning the subject matter of this report are invited from all interested parties. Comments should be addressed to the Manager, Standards Program, National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, D.C. 20531.

Lester D. Shubin
Manager, Standards Program
National Institute of Law
Enforcement and Criminal Justice

* Section 402(b) of the Omnibus Crime Control and Safe Streets Act of 1968, as amended.

TERMS AND DEFINITIONS

ACCESS CONTROL.—The control of pedestrian and vehicular traffic through entrances and exits of a PROTECTED AREA or premises.

ACCESS MODE.—The operation of an ALARM SYSTEM such that no ALARM SIGNAL is given when the PROTECTED AREA is entered; however, a signal may be given if the SENSOR, ANNUNCIATOR, or CONTROL UNIT is tampered with or opened.

ACCESS/SECURE CONTROL UNIT.—See CONTROL UNIT.

ACCESS SWITCH.—See AUTHORIZED ACCESS SWITCH.

ACCUMULATOR.—A circuit which accumulates a sum. For example, in an audio alarm control unit, the accumulator sums the amplitudes of a series of pulses, which are larger than some threshold level, subtracts from the sum at a predetermined rate to account for random background pulses, and initiates an alarm signal when the sum exceeds some predetermined level. This circuit is also called an integrator; in digital circuits it may be called a counter.

ACTIVE INTRUSION SENSOR.—An active sensor which detects the presence of an intruder within the range of the sensor. Examples are an ULTRASONIC MOTION DETECTOR, a RADIO FREQUENCY MOTION DETECTOR, and a PHOTOELECTRIC ALARM SYSTEM. See also PASSIVE INTRUSION SENSOR.

ACTIVE SENSOR.—A sensor which detects the disturbance of a radiation field which is generated by the sensor. See also PASSIVE SENSOR.

ACTUATING DEVICE.—See ACTUATOR.

ACTUATOR.—A manual or automatic switch or sensor such as HOLDUP BUTTON, MAGNETIC SWITCH, or thermostat which causes a system to transmit an ALARM SIGNAL when manually activated or when the device automatically senses an intruder or other unwanted condition.

AIR GAP.—The distance between two magnetic elements in a magnetic or electromagnetic circuit, such as between the core and the armature of a relay.

ALARM.—An ALARM DEVICE or an ALARM SIGNAL.

ALARM CIRCUIT.—An electrical circuit of an alarm system which produces or transmits an ALARM SIGNAL.

ALARM CONDITION.—A threatening condition, such as an intrusion, fire, or holdup, sensed by a DETECTOR.

ALARM DEVICE.—A device which signals a warning in response to a ALARM CONDITION, such as a bell, siren, or ANNUNCIATOR.

ALARM DISCRIMINATION.—The ability of an alarm system to distinguish between those stimuli caused by an INTRUSION and those which are a part of the environment.

ALARM LINE.—A wired electrical circuit used for the transmission of ALARM SIGNALS from the protected premises to a MONITORING STATION.

ALARM RECEIVER.—See ANNUNCIATOR.

ALARM SENSOR.—See SENSOR.

ALARM SIGNAL.—A signal produced by a CONTROL UNIT indicating the existence of an ALARM CONDITION.

ALARM STATE.—The condition of a DETECTOR which causes a CONTROL UNIT in the SECURE MODE to transmit an ALARM SIGNAL.

ALARM STATION.—(1) A manually actuated device installed at a fixed location to transmit an ALARM SIGNAL in response to an ALARM CONDITION, such as a concealed HOLDUP BUTTON in a bank teller's cage. (2) A well-marked emergency control unit, installed in fixed locations usually accessible to the public, used to summon help in response to an ALARM CONDITION. The CONTROL UNIT contains either a manually actuated switch or telephone connected to fire or police headquarters, or a telephone answering service. See also REMOTE STATION ALARM SYSTEM.

ALARM SYSTEM.—An assembly of equipment and devices designated and arranged to signal the presence of an ALARM CONDITION requiring urgent attention such as unauthorized entry, fire, temperature rise, etc. The system may be LOCAL, POLICE CONNECTION, CENTRAL STATION or PROPRIETARY. (For individual alarm systems see alphabetical listing by type, e.g., INTRUSION ALARM SYSTEM.)

ANNUNCIATOR.—An alarm monitoring device which consists of a number of visible signals such as "flags" or lamps indicating the status of the DETECTORS in an alarm system or systems. Each circuit in the device is usually labelled to identify the location and condition being monitored. In addition to the visible signal, an audible signal is usually associated with the device. When an alarm condition is reported, a signal is indicated visibly, audibly, or both. The visible signal is generally maintained until reset either manually or automatically.

ANSWERING SERVICE.—A business which contracts with subscribers to answer incoming telephone calls after a specified delay or when scheduled to do so. It may also provide other services such as relaying fire or intrusion alarm signals to proper authorities.

AREA PROTECTION.—Protection of the inner space or volume of a secured area by means of a VOLUMETRIC SENSOR.

AREA SENSOR.—A sensor with a detection zone which approximates an area, such as a wall surface or the exterior of a safe.

AUDIBLE ALARM DEVICE.—(1) A noisemaking device such as a siren, bell, or horn used as part of a local alarm system to indicate an ALARM CONDITION. (2) A bell, buzzer, horn or other noisemaking device used as a part of an ANNUNCIATOR to indicate a change in the status or operating mode of an alarm system.

AUDIO DETECTION SYSTEM.—See SOUND SENSING DETECTION SYSTEM.

AUDIO FREQUENCY (SONIC).—Sound frequencies within the range of human hearing, approximately 15 to 20,000 Hz.

AUDIO MONITOR.—An arrangement of amplifiers and speakers designed to monitor the sounds transmitted by microphones located in the PROTECTED AREA. Similar to an ANNUNCIATOR, except that supervisory personnel can monitor the protected area to interpret the sounds.

AUTHORIZED ACCESS SWITCH.—A device used to make an alarm system or some portion or zone of a system inoperative in order to permit authorized access through a PROTECTED PORT. A SHUNT is an example of such a device.

B. A.—Burglar alarm.

BEAM DIVERGENCE.—In a PHOTOELECTRIC ALARM SYSTEM, the angular spread of the light beam.

BREAK ALARM.—(1) An ALARM CONDITION signaled by the opening or breaking of an electrical circuit. (2) The signal produced by a break alarm condition (sometimes referred to as an open circuit alarm or trouble signal, designed to indicate possible system failure).

BUG.—(1) To plant a microphone or other SOUND SENSOR or to tap a communication line for the purpose of SURREPTITIOUS listening or AUDIO MONITORING; loosely, to install a sensor in a specified location. (2) The microphone or other sensor used for the purpose of surreptitious listening.

BUILDING SECURITY ALARM SYSTEM.—The system of PROTECTIVE SIGNALING devices installed at a premise.

BURGLAR ALARM (B. A.) PAD.—A supporting frame laced with fine wire or a fragile panel located with FOIL or fine wire and installed so as to cover an exterior opening in a building, such as a door, or skylight. Entrance through the opening breaks the wire or foil and initiates an ALARM SIGNAL. See also GRID.

BURGLAR ALARM SYSTEM.—See INTRUSION ALARM SYSTEM.

BURGLARY.—The unlawful entering of a structure with the intent to commit a felony or theft therein.

CABINET-FOR-SAFE.—A wooden enclosure having closely spaced electrical GRIDS on all

inner surfaces and CONTACTS on the doors. It surrounds a safe and initiates an alarm signal if an attempt is made to open or penetrate the cabinet.

CAPACITANCE.—The property of two or more objects which enables them to store electrical energy in an electric field between them. The basic measurement unit is the farad. Capacitance varies inversely with the distance between the objects, hence the change of capacitance with relative motion is greater the nearer one object is to the other.

CAPACITANCE ALARM SYSTEM.—An alarm system in which a protected object is electrically connected as a CAPACITANCE SENSOR. The approach of an intruder causes sufficient change in CAPACITANCE to upset the balance of the system and initiate an ALARM SIGNAL. Also called proximity alarm system.

CAPACITANCE DETECTOR.—See CAPACITANCE SENSOR.

CAPACITANCE SENSOR.—A sensor which responds to a change in CAPACITANCE in a field containing a protected object or in a field within a protected area.

CARRIER CURRENT TRANSMITTER.—A device which transmits ALARM SIGNALS from a sensor to a CONTROL UNIT via the standard ac power lines.

CENTRAL STATION.—A control center to which alarm systems in a subscriber's premises are connected, where circuits are supervised, and where personnel are maintained continuously to record and investigate alarm or trouble signals. Facilities are provided for the reporting of alarms to police and fire departments or to other outside agencies.

CENTRAL STATION ALARM SYSTEM.—An alarm system, or group of systems, the activities of which are transmitted to, recorded in, maintained by, and supervised from a CENTRAL STATION. This differs from PROPRIETARY ALARM SYSTEMS in that the central station is owned and operated independently of the subscriber.

CIRCUMVENTION.—The defeat of an alarm system by the avoidance of its detection devices, such as by jumping over a pressure sensitive mat, by entering through a hole cut in an unprotected wall rather than through a protected door, or by keeping outside the range of an ULTRASONIC MOTION DETECTOR. Circumvention contrasts with SPOOFING.

CLOSED CIRCUIT ALARM.—See CROSS ALARM.

CLOSED CIRCUIT SYSTEM.—A system in which the sensors of each zone are connected in series so that the same current exists in each sensor. When an activated sensor breaks the circuit or the connecting wire is cut, an alarm is transmitted for that zone.

CLUTCH HEAD SCREW.—A mounting screw with a uniquely designed head for which the installation and removal tool is not commonly available. They are used to install alarm system components so that removal is inhibited.

CODED-ALARM SYSTEM.—An alarm system in which the source of each signal is identifiable. This is usually accomplished by means of a series of current pulses which operate audible or visible ANNUNCIATORS or recorders or both, to yield a recognizable signal. This is usually used to allow the transmission of multiple signals on a common circuit.

CODED CABLE.—A multiconductor cable in which the insulation on each conductor is distinguishable from all others by color or design. This assists in identification of the point of origin or final destination of a wire.

CODED TRANSMITTER.—A device for transmitting a coded signal when manually or automatically operated by an ACTUATOR. The actuator may be housed with the transmitter or a number of actuators' may operate a common transmitter.

CODING SIREN.—A siren which has an auxiliary mechanism to interrupt the flow of air through its principal mechanism, enabling it to produce a controllable series of sharp blasts.

COMBINATION SENSOR ALARM SYSTEM.—An alarm system which requires the simultaneous activation of two or more sensors to initiate an ALARM SIGNAL.

COMPROMISE.—See DEFEAT.

CONSTANT RINGING DROP (CRD).—A relay which when activated even momentarily will remain in an ALARM CONDITION until RESET. A key is often required to reset the relay and turn off the alarm.

CONSTANT RINGING RELAY (CRR).—See CONSTANT RINGING DROP.

CONTACT.—(1) Each of the pair of metallic parts of a switch or relay which by touching or separating make or break the electrical current path. (2) A switch-type sensor.

CONTACT DEVICE.—A device which when actuated opens or closes a set of electrical contacts; a switch or relay.

CONTACT MICROPHONE.—A microphone designed for attachment directly to a surface of a PROTECTED AREA or object; usually used to detect surface vibrations.

CONTACT VIBRATION SENSOR.—See VIBRATION SENSOR.

CONTACTLESS VIBRATING BELL.—A VIBRATING BELL whose continuous operation depends upon application of an alternating current, without circuit-interrupting contacts such as those used in vibrating bells operated by direct current.

CONTROL CABINET.—See CONTROL UNIT.

CONTROL UNIT.—A device, usually ELECTRONIC, which provides the interface between the alarm system and the human operator and produces an ALARM SIGNAL when its programmed response indicates an ALARM CONDITION. Some or all of the following may be provided for: power for sensors, sensitivity adjustments, means to select and indicate ACCESS MODE or SECURE MODE, monitoring for LINE SUPERVISION and TAMPER DEVICES, timing circuits, for ENTRANCE and EXIT DELAYS, transmission of an alarm signal, etc.

COVERT.—Hidden and protected.

CRD.—See CONSTANT RINGING DROP.

CROSS ALARM.—(1) An ALARM CONDITION signaled by crossing or shorting an electrical circuit. (2) The signal produced due to a cross alarm condition.

CROSSOVER.—An insulated electrical path used to connect foil across window dividers, such as those found on multiple pane windows, to prevent grounding and to make a more durable connection.

CRR.—Constant ringing relay. See CONSTANT RINGING DROP.

DARK CURRENT.—The current output of a PHOTOELECTRIC SENSOR when no light is entering the sensor.

DAY SETTING.—See ACCESS MODE.

DEFEAT.—The frustration, counteraction, or thwarting of an ALARM DEVICE so that it fails to signal an alarm when a protected area is entered. Defeat includes both CIRCUMVENTION and SPOOFING.

DETECTION RANGE.—The greatest distance at which a sensor will consistently detect an intruder under a standard set of conditions.

DETECTOR.—(1) A sensor such as those used to detect INTRUSION, equipment malfunctions or failure, rate of temperature rise, smoke or fire. (2) A demodulator, a device for recovering the modulating function or signal from a modulated wave, such as that used in a modulated photoelectric alarm system. See also PHOTOELECTRIC ALARM SYSTEM, MODULATED.

DIALER.—See TELEPHONE DIALER, AUTOMATIC.

DIFFERENTIAL PRESSURE SENSOR.—A sensor used for PERIMETER PROTECTION which responds to the difference between the hydraulic pressures in two liquid-filled tubes buried just below the surface of the earth around the exterior perimeter of the PROTECTED AREA. The pressure difference can indicate an intruder walking or driving over the buried tubes.

DIGITAL TELEPHONE DIALER.—See TELEPHONE DIALER, DIGITAL.

DIRECT CONNECT.—See POLICE CONNECTION.

DIRECT WIRE BURGLAR ALARM CIRCUIT (DWBA).—See ALARM LINE.

DIRECT WIRE CIRCUIT.—See ALARM LINE.

DOOR CORD.—A short, insulated cable with an attaching block and terminals at each end used to conduct current to a device, such as FOIL, mounted on the movable portion of a door or window.

DOOR TRIP SWITCH.—A MECHANICAL SWITCH mounted so that movement of the door will operate the switch.

DOPPLER EFFECT (SHIFT).—The apparent change in frequency of sound or radio waves when reflected from or originating from a moving object. Utilized in some types of MOTION SENSORS.

DOUBLE-CIRCUIT SYSTEM.—An ALARM CIRCUIT in which two wires enter and two wires leave each sensor.

DOUBLE DROP.—An alarm signaling method often used in CENTRAL STATION ALARM SYSTEMS in which the line is first opened to produce a BREAK ALARM and then shorted to produce a CROSS ALARM.

DROP.—(1) See ANNUNCIATOR. (2) A light indicator on an annunciator.

DURESS ALARM DEVICE.—A device which produces either a SILENT ALARM or LOCAL ALARM under a condition of personnel stress such as holdup, fire, illness, or other panic or emergency. The device is normally manually operated and may be fixed or portable.

DURESS ALARM SYSTEM.—An alarm system which employes a DURESS ALARM DEVICE.

DWBA.—Direct wire burglar alarm. See ALARM LINE.

E-FIELD SENSOR.—A PASSIVE SENSOR which detects changes in the earth's ambient electric field caused by the movement of an intruder. See also H-FIELD SENSOR.

ELECTRICAL.—Related to, pertaining to, or associated with electricity.

ELECTROMAGNETIC.—Pertaining to the relationship between current flow and magnetic field.

ELECTROMAGNETIC INTERFERENCE (EMI).—Impairment of the reception of a wanted electromagnetic signal by an electromagnetic disturbance. This can be caused by lightning, radio transmitters, power line noise and other electrical devices.

ELECTROMECHANICAL BELL.—A bell with a prewound spring-driven striking mechanism, the operation of which is initiated by the activation of an electric tripping mechanism.

ELECTRONIC.—Related to, or pertaining to, devices which utilize electrons moving through a vacuum, gas, or semiconductor, and to circuits or systems containing such devices.

EMI.—See ELECTROMAGNETIC INTERFERENCE.

END OF LINE RESISTOR.—See TERMINAL RESISTOR.

ENTRANCE DELAY.—The time between actuating a sensor on an entrance door or gate and the sounding of a LOCAL ALARM or transmission of an ALARM SIGNAL by the CONTROL UNIT. This delay is used if the AUTHORIZED ACCESS SWITCH is located within the PROTECTED AREA and permits a person with the control key to enter without causing an alarm. The delay is provided by a timer within the CONTROL UNIT.

E.O.L.—End of line.

EXIT DELAY.—The time between turning on a control unit and the sounding of a LOCAL ALARM or transmission of an ALARM SIGNAL upon actuation of a sensor on an exit door. This delay is used if the AUTHORIZED ACCESS SWITCH is located within the PROTECTED AREA and permits a person with the control key to turn on the alarm system and to leave through a protected door or gate without causing an alarm. The delay is provided by a timer within the CONTROL UNIT.

FAIL SAFE.—A feature of a system or device which initiates an alarm or trouble signal when the system or device either malfunctions or loses power.

FALSE ALARM.—An alarm signal transmitted in the absence of an ALARM CONDITION. These may be classified according to causes: envi-

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ronmental, e.g., rain, fog, wind, hail, lightning, temperature, etc.; animals, e.g., rats, dogs, cats, insects, etc.; man-made disturbances, e.g., sonic booms, EMI, vehicles, etc.; equipment malfunction, e.g., transmission errors, component failure, etc.; operator error; and unknown.

FALSE ALARM RATE, MONTHLY.—The number of false alarms per installation per month.

FALSE ALARM RATIO.—The ratio of FALSE ALARMS to total alarms; may be expressed as a percentage or as a simple ratio.

FENCE ALARM.—Any of several types of sensors used to detect the presence of an intruder near a fence or any attempt by him to climb over, go under, or cut through the fence.

FIELD.—The space or area in which there exists a force such as that produced by an electrically charged object, a current, or a magnet.

FIRE DETECTOR (SENSOR).—See HEAT SENSOR and SMOKE DETECTOR.

FLOOR MAT.—See MAT SWITCH.

FLOOR TRAP.—A TRAP installed so as to detect the movement of a person across a floor space, such as a TRIP WIRE SWITCH or MAT SWITCH.

FOIL.—Thin metallic strips which are cemented to a protected surface (usually glass in a window or door), and connected to a closed electrical circuit. If the protected material is broken so as to break the foil, the circuit opens, initiating an alarm signal. Also called tape. A window, door, or other surface to which foil has been applied is said to be taped or foiled.

FOIL CONNECTOR.—An electrical terminal block used on the edge of a window to join interconnecting wire to window FOIL.

FOOT RAIL.—A HOLDUP ALARM DEVICE, often used at cashiers' windows, in which a foot is placed under the rail, lifting it, to initiate an ALARM SIGNAL.

FREQUENCY DIVISION MULTIPLEXING (FDM).—See MULTIPLEXING, FREQUENCY DIVISION.

GLASSBREAK VIBRATION DETECTOR.—A VIBRATION DETECTION SYSTEM which employs a CONTACT MICROPHONE attached to a glass window to detect cutting or breakage of the glass.

GRID.—(1) An arrangement of electrically conducting wire, screen, or tubing placed in front of doors or windows or both which is used as a part of a CAPACITANCE SENSOR. (2) a lattice of wooden dowels or slats concealing fine wires in a closed circuit which initiates an ALARM SIGNAL when forcing or cutting the lattice breaks the wires. Used over accessible openings. Sometimes called a protective screen. See also BURGLAR ALARM PAD. (3) A screen or metal plate, connected to earth ground, sometimes used to provide a stable ground reference for objects protected by a CAPACITANCE SENSOR. If placed against the walls near the protected object, it prevents the sensor sensitivity from extending through the walls into areas of activity.

HEAT DETECTOR.—See HEAT SENSOR.

HEAT SENSOR.—(1) A sensor which responds to either a local temperature above a selected value, a local temperature increase which is at a rate of increase greater than a preselected rate (rate of rise), or both. (2) A sensor which responds to infrared radiation from a remote source such as a person.

H-FIELD SENSOR.—A PASSIVE SENSOR which detects changes in the earth's ambient magnetic field caused by the movement of an intruder. See also E-FIELD SENSOR.

HOLDUP.—A ROBBERY involving the threat to use a weapon.

HOLDUP ALARM DEVICE.—A device which signals a holdup. The device is usually SURREPTITIOUS and may be manually or automatically actuated, fixed or portable. See DURESS ALARM DEVICE.

HOLDUP ALARM SYSTEM, AUTOMATIC.—An alarm system which employs a holdup alarm device, in which the signal transmission is initiated solely by the action of the intruder, such as a money clip in a cash drawer.

HOLDUP ALARM SYSTEM, MANUAL.—A holdup alarm system in which the signal trans-

mission is initiated by the direct action of the person attacked or of an observer of the attack.

HOLDUP BUTTON.—A manually actuated MECHANICAL SWITCH used to initiate a duress alarm signal; usually constructed to minimize accidental activation.

HOOD CONTACT.—A switch which is used for the supervision of a closed safe or vault door. Usually installed on the outside surface of the protected door.

IMPEDANCE.—The opposition to the flow of alternating current in a circuit. May be determined by the ratio of an input voltage to the resultant current.

IMPEDANCE MATCHING.—Making the IMPEDANCE of a TERMINATING DEVICE equal to the impedance of the circuit to which it is connected in order to achieve optimum signal transfer.

INFRARED (IR) MOTION DETECTOR.—A sensor which detects changes in the infrared light radiation from parts of the PROTECTED AREA. Presence of an intruder in the area changes the infrared light intensity from his direction.

INFRARED (IR) MOTION SENSOR.—See INFRARED MOTION DETECTOR.

INFRARED SENSOR.—See HEAT SENSOR, INFRARED MOTION DETECTOR, and PHOTOELECTRIC SENSOR.

INKING REGISTER.—See REGISTER, INKING.

INTERIOR PERIMETER PROTECTION.—A line of protection along the interior boundary of a PROTECTED AREA including all points through which entry can be effected.

INTRUSION.—Unauthorized entry into the property of another.

INTRUSION ALARM SYSTEM.—An alarm system for signaling the entry or attempted entry of a person or an object into the area or volume protected by the system.

IONIZATION SMOKE DETECTOR.—A SMOKE DETECTOR in which a small amount of radioactive material ionizes the air in the sensing chamber, thus rendering it conductive and permitting a current to flow through the air between two charged electrodes. This effectively gives the sensing chamber an electrical conductance. When smoke particles enter the ionization area, they decrease the conductance of the air by attaching themselves to the ions causing a reduction in mobility. When the conductance is less than a predetermined level, the detector circuit responds.

IR.—Infrared.

JACK.—An electrical connector which is used for frequent connect and disconnect operations; for example, to connect an alarm circuit at an overhang door.

LACING.—A network of fine wire surrounding or covering an area to be protected, such as a safe, vault, or glass panel, and connected into a CLOSED CIRCUIT SYSTEM. The network of wire is concealed by a shield such as concrete or paneling in such a manner that an attempt to break through the shield breaks the wire and initiates an alarm.

LIGHT INTENSITY CUTOFF.—In a PHOTOELECTRIC ALARM SYSTEM, the percent reduction of light which initiates an ALARM SIGNAL at the photoelectric receiver unit.

LINE AMPLIFIER.—An audio amplifier which is used to provide preamplification of an audio ALARM SIGNAL before transmission of the signal over an ALARM LINE. Use of an amplifier extends the range of signal transmission.

LINE SENSOR (DETECTOR).—A sensor with a detection zone which approximates a line or series of lines, such as a PHOTOELECTRIC SENSOR which senses a direct or reflected light beam.

LINE SUPERVISION.—Electronic protection of an ALARM LINE accomplished by sending a continuous or coded signal through the circuit. A change in the circuit characteristics, such as a change in IMPEDANCE due to the circuit's having been tampered with, will be detected by a monitor. The monitor initiates an alarm if the change exceeds a predetermined amount.

LOCAL ALARM.—An alarm which when ac-

tivated makes a loud noise (see AUDIBLE ALARM DEVICE) at or near the PROTECTED AREA or floods the site with light or both.

LOCAL ALARM SYSTEM.—An alarm system which when activated produces an audible or visible signal in the immediate vicinity of the protected premises or object. This term usually applies to systems designed to provide only a local warning of INTRUSION and not to transmit to a remote MONITORING STATION. However, local alarm systems are sometimes used in conjunction with a REMOTE ALARM.

LOOP.—An electric circuit consisting of several elements, usually switches, connected in series.

MAGNETIC ALARM SYSTEM.—An alarm system which will initiate an alarm when it detects changes in the local magnetic field. The changes could be caused by motion of ferrous objects such as guns or tools near the MAGNETIC SENSOR.

MAGNETIC CONTACT.—See MAGNETIC SWITCH.

MAGNETIC SENSOR.—A sensor which responds to changes in magnetic field. See also MAGNETIC ALARM SYSTEM.

MAGNETIC SWITCH.—A switch which consists of two separate units: a magnetically-actuated switch, and a magnet. The switch is usually mounted in a fixed position (door jamb or window frame) opposing the magnet, which is fastened to a hinged or sliding door, window, etc. When the movable section is opened, the magnet moves with it, actuating the switch.

MAGNETIC SWITCH, BALANCED.—A MAGNETIC SWITCH which operates using a balanced magnetic field in such a manner as to resist DEFEAT with an external magnet. It signals an alarm when it detects either an increase or decrease in magnetic field strength.

MATCHING NETWORK.—A circuit used to achieve IMPEDANCE MATCHING. It may also allow audio signals to be transmitted to an ALARM LINE while blocking direct current used locally for LINE SUPERVISION.

MAT SWITCH.—A flat area switch used on open floors or under carpeting. It may be sensitive over an area of a few square feet or several square yards.

McCULLOH CIRCUIT (LOOP).—A supervised single wire LOOP connecting a number of CODED TRANSMITTERS located in different PROTECTED AREAS to a CENTRAL STATION receiver.

MECHANICAL SWITCH.—A switch in which the CONTACTS are opened and closed by means of a depressible plunger or button.

MERCURY FENCE ALARM.—A type of MERCURY SWITCH which is sensitive to the vibration caused by an intruder climbing on a fence.

MERCURY SWITCH.—A switch operated by tilting or vibrating which causes an enclosed pool of mercury to move, making or breaking physical and electrical contact with conductors. These are used on tilting doors and windows, and on fences.

MICROWAVE ALARM SYSTEM.—An alarm system which employs RADIO FREQUENCY MOTION DETECTORS operating in the MICROWAVE FREQUENCY region of the electromagnetic spectrum.

MICROWAVE FREQUENCY.—Radio frequencies in the range of approximately 1.0 to 300 GHz.

MICROWAVE MOTION DETECTOR.—See RADIO FREQUENCY MOTION DETECTOR.

MODULATED PHOTOELECTRIC ALARM SYSTEM.—See PHOTOELECTRIC ALARM SYSTEM, MODULATED.

MONITOR CABINET.—An enclosure which houses the ANNUNCIATOR and associated equipment.

MONITOR PANEL.—See ANNUNCIATOR.

MONITORING STATION.—The CENTRAL STATION or other area at which guards, police, or commercial service personnel observe ANNUNCIATORS and REGISTERS reporting on the condition of alarm systems.

MOTION DETECTION SYSTEM.—See MOTION SENSOR.

MOTION DETECTOR.—See MOTION SENSOR.

MOTION SENSOR.—A sensor which responds to the motion of an intruder. See also RADIO FREQUENCY MOTION DETECTOR, SONIC MOTION DETECTOR, ULTRASONIC MOTION DETECTOR, AND INFRARED MOTION DETECTOR.

MULTIPLEXING.—A technique for the concurrent transmission of two or more signals in either or both directions, over the same wire, carrier, or other communication channel. The two basic multiplexing techniques are time division multiplexing and frequency division multiplexing.

MULTIPLEXING, FREQUENCY DIVISION (FDM).—The multiplexing technique which assigns to each signal a specific set of frequencies (called a channel) within the larger block of frequencies available on the main transmission path in much the same way that many radio stations broadcast at the same time but can be separately received.

MULTIPLEXING, TIME DIVISION (TDM).—The multiplexing technique which provides for the independent transmission of several pieces of information on a time-sharing basis by sampling, at frequent intervals, the data to be transmitted.

NEUTRALIZATION.—See DEFEAT.

NICAD.—(Contraction of "nickel cadmium".) A high performance, long-lasting rechargeable battery, with electrodes made of nickel and cadmium, which may be used as an emergency power supply for an alarm system.

NIGHT SETTING.—See SECURE MODE.

NONRETRACTABLE (ONE-WAY) SCREW.—A screw with a head designed to permit installation with an ordinary flat bit screwdriver but which resists removal. They are used to install alarm system components so that removal is inhibited.

NORMALLY CLOSED (NC) SWITCH.—A switch in which the CONTACTS are closed when no external forces act upon the switch.

NORMALLY OPEN (NO) SWITCH.—A switch in which the CONTACTS are open (separated) when no external forces act upon the switch.

NUISANCE ALARM.—See FALSE ALARM.

OBJECT PROTECTION.—See SPOT PROTECTION.

OPEN-CIRCUIT ALARM.—See BREAK ALARM.

OPEN-CIRCUIT SYSTEM.—a system in which the sensors are connected in parallel. When a sensor is activated, the circuit is closed, permitting a current which activates an ALARM SIGNAL.

PANIC ALARM.—See DURESS ALARM DEVICE.

PANIC BUTTON.—See DURESS ALARM DEVICE.

PASSIVE INTRUSION SENSOR.—A passive sensor in an INTRUSION ALARM SYSTEM which detects an intruder within the range of the sensor. Examples are a SOUND SENSING DETECTION SYSTEM, a VIBRATION DETECTION SYSTEM, an INFRARED MOTION DETECTOR, and an E-FIELD SENSOR.

PASSIVE SENSOR.—A sensor which detects natural radiation or radiation disturbances, but does not itself emit the radiation on which its operation depends.

PASSIVE ULTRASONIC ALARM SYSTEM.—An alarm system which detects the sounds in the ULTRASONIC FREQUENCY range caused by an attempted forcible entry into a protected structure. The system consists of microphones, a CONTROL UNIT containing an amplifier, filters, an ACCUMULATOR, and a power supply. The unit's sensitivity is adjustable so that ambient noises or normal sounds will not initiate an ALARM SIGNAL; however, noise above the preset level or a sufficient accumulation of impulses will initiate an alarm.

PERCENTAGE SUPERVISION.—A method of LINE SUPERVISION in which the current in or resistance of a supervised line is monitored for

changes. When the change exceeds a selected percentage of the normal operating current or resistance in the line, an ALARM SIGNAL is produced.

PERIMETER ALARM SYSTEM.—An alarm system which provides perimeter protection.

PERIMETER PROTECTION.—Protection of access to the outer limits of a PROTECTED AREA, by means of physical barriers, sensors on physical barriers, or exterior sensors not associated with a physical barrier.

PERMANENT CIRCUIT.—An ALARM CIRCUIT which is capable of transmitting an ALARM SIGNAL whether the alarm control is in ACCESS MODE or SECURE MODE. Used, for example, on foiled fixed windows, TAMPER SWITCHES, and supervisory lines. See also SUPERVISORY ALARM SYSTEM, SUPERVISORY CIRCUIT, and PERMANENT PROTECTION.

PERMANENT PROTECTION.—A system of alarm devices such as FOIL, BURGLAR ALARM PADS, or LACINGS connected in a permanent circuit to provide protection whether the CONTROL UNIT is in the ACCESS MODE or SECURE MODE.

PHOTOELECTRIC ALARM SYSTEM.—An alarm system which employs a light beam and PHOTOELECTRIC SENSOR to provide a line of protection. Any interruption of the beam by an intruder is sensed by the sensor. Mirrors may be used to change the direction of the beam. The maximum beam length is limited by many factors, some of which are the light source intensity, number of mirror reflections, detector sensitivity, BEAM DIVERGENCE, fog, and haze.

PHOTOELECTRIC ALARM SYSTEM, MODULATED.—A photoelectric alarm system in which the transmitted light beam is modulated in a predetermined manner and in which the receiving equipment will signal an alarm unless it receive the properly modulated light.

PHOTOELECTRIC BEAM TYPE SMOKE DETECTOR.—A SMOKE DETECTOR which has a light source which projects a light beam across the area to be protected onto a photoelectric cell. Smoke between the light source and the receiving cell reduces the light reaching the cell, causing actuation.

PHOTOELECTRIC DETECTOR.—See PHOTOELECTRIC SENSOR.

PHOTOELECTRIC SENSOR.—A device which detects a visible or invisible beam of light and responds to its complete or nearly complete interruption. See also PHOTOELECTRIC ALARM SYSTEM and PHOTOELECTRIC ALARM SYSTEM, MODULATED.

PHOTOELECTRIC SPOT TYPE SMOKE DETECTOR.—A SMOKE DETECTOR which contains a chamber with covers which prevent the entrance of light but allow the entrance of smoke. The chamber contains a light source and a photosensitive cell so placed that light is blocked from it. When smoke enters, the smoke particles scatter and reflect the light into the photosensitive cell, causing an alarm.

POINT PROTECTION.—See SPOT PROTECTION.

POLICE CONNECTION.—The direct link by which an alarm system is connected to an ANNUNCIATOR installed in a police station. Examples of a police connection are an ALARM LINE, or a radio communications channel.

POLICE PANEL.—See POLICE STATION UNIT.

POLICE STATION UNIT.—An ANNUNCIATOR which can be placed in operation in a police station.

PORTABLE DURESS SENSOR.—A device carried on a person which may be activated in an emergency to send an ALARM SIGNAL to a MONITORING STATION.

PORTABLE INTRUSION SENSOR.—A sensor which can be installed quickly and which does not require the installation of dedicated wiring for the transmission its ALARM SIGNAL.

POSITIVE NONINTERFERING (PNI) AND SUCCESSIVE ALARM SYSTEM.—An alarm system which employs multiple alarm transmitters on each ALARM LINE (like McCULLOH LOOP) such that in the event of simul-

taneous operation of several transmitters, one of them takes control of the alarm line, transmits its full signal, then release the alarm line for successive transmission by other transmitters which are held inoperative until they gain control.

PRESSURE ALARM SYSTEM.—An alarm system which protects a vault or other enclosed space by maintaining and monitoring a predetermined air pressure differential between the inside and outside of the space. Equalization of pressure resulting from opening the vault or cutting through the enclosure will be sensed and will initiate an ALARM SIGNAL.

PRINTING RECORDER.—An electromechanical device used at a MONITORING STATION which accepts coded signals from alarm lines and converts them to an alphanumeric printed record of the signal received.

PROPRIETARY ALARM SYSTEM.—An alarm system which is similar to a CENTRAL STATION ALARM SYSTEM except that the ANNUNCIATOR is located in a constantly manned guard room maintained by the owner for his own internal security operations. The guards monitor the system and respond to all ALARM SIGNALS or alert local law enforcement agencies or both.

PROTECTED AREA.—An area monitored by an alarm system or guards, or enclosed by a suitable barrier.

PROTECTED PORT.—A point of entry such as a door, window, or corridor which is monitored by sensors connected to an alarm system.

PROTECTION DEVICE.—(1) A sensor such as a GRID, FOIL, CONTACT, or PHOTOELECTRIC SENSOR connected into an INTRUSION ALARM SYSTEM. (2) A barrier which inhibits INTRUSION, such as a grille, lock, fence or wall.

PROTECTION, EXTERIOR PERIMETER.—A line of protection surrounding but somewhat removed from a facility. Examples are fences, barrier walls, or patrolled points of a perimeter.

PROTECTION OFF.—See ACCESS MODE.

PROTECTION ON.—See SECURE MODE.

PROTECTIVE SCREEN.—See GRID.

PROTECTIVE SIGNALING.—The initiation, transmission, and reception of signals involved in the detection and prevention of property loss due to fire, burglary, or other destructive conditions. Also, the electronic supervision of persons and equipment concerned with this detection and prevention. See also LINE SUPERVISION and SUPERVISORY ALARM SYSTEM.

PROXIMITY ALARM SYSTEM.—See CAPACITANCE ALARM SYSTEM.

PUNCHING REGISTER.—See REGISTER, PUNCH.

RADAR ALARM SYSTEM.—An alarm system which employs RADIO FREQUENCY MOTION DETECTORS.

RADAR (RADIO DETECTING AND RANGING).—See RADIO FREQUENCY MOTION DETECTOR.

RADIO FREQUENCY INTERFERENCE (RFI).—ELECTROMAGNETIC INTERFERENCE in the radio frequency range.

RADIO FREQUENCY MOTION DETECTOR.—A sensor which detects the motion of an intruder through the use of a radiated radio frequency electromagnetic field. The device operates by sensing a disturbance in the generated RF field caused by intruder motion, typically a modulation of the field referred to as a DOPPLER EFFECT, which is used to initiate an ALARM SIGNAL. Most radio frequency motion detectors are certified by the FCC for operation as "field disturbance sensors" at one of the following frequencies: 0.915 GHz (L-Band), 2.45 GHz (S-Band), 5.8 GHz (X-Band), 10.525 GHz (X-Band), and 22.125 GHz (K-Band). Units operating in the MICROWAVE FREQUENCY range are usually called MICROWAVE MOTION DETECTORS.

REED SWITCH.—A type of MAGNETIC SWITCH consisting of contacts formed by two thin moveable magnetically actuated metal vanes or reeds, held in a normally open position within a sealed glass envelope.

REGISTER.—An electromechanical device

which marks a paper tape in response to signal impulses received from transmitting circuits. A register may be driven by a prewound spring mechanism, an electric motor, or a combination of these.

REGISTER, INKING.—A register which marks the tape with ink.

REGISTER, PUNCH.—A register which marks the tape by cutting holes in it.

REGISTER, SLASHING.—A register which marks the tape by cutting V-shaped slashes in it.

REMOTE ALARM.—An ALARM SIGNAL which is transmitted to a remote MONITORING STATION. See also LOCAL ALARM.

REMOTE STATION ALARM SYSTEM.—An alarm system which employes remote ALARM STATIONS usually located in building hallways or on city streets.

REPORTING LINE.—See ALARM LINE.

RESET.—To restore a device to its original (normal) condition after an alarm or trouble signal.

RESISTANCE BRIDGE SMOKE DETECTOR.—A SMOKE DETECTOR which responds to the particles and moisture present in smoke. These substances reduce the resistance of an electrical bridge grid and cause the detector to respond.

RETARD TRANSMITTER.—A CODED TRANSMITTER in which a delay period is introduced between the time of actuation and the time of signal transmission.

RFI.—RADIO FREQUENCY INTERFERENCE.

Rf MOTION DETECTOR.—See RADIO FREQUENCY MOTION DETECTOR.

ROBBERY.—The felonious or forcible taking of property by violence, threat, or other overt felonious act in the presence of the victim.

SECURE MODE.—The condition of an alarm system in which all sensors and CONTROL UNITS are ready to respond to an intrusion.

SECURITY MONITOR.—See ANNUNCIATOR.

SEISMIC SENSOR.—A sensor, generally buried under the surface of the ground for PERIMETER PROTECTION, which responds to minute vibrations of the earth generated as an intruder walks or drives within its DETECTION RANGE.

SENSOR.—A device which is designed to produce a signal or offer indication in response to an event or stimulus within its detection zone.

SENSOR, COMBUSTION.—See IONIZATION SMOKE DETECTOR, PHOTOELECTRIC BEAM TYPE SMOKE DETECTOR, PHOTOELECTRIC SPOT TYPE SMOKE DETECTOR and RESISTANCE BRIDGE SMOKE DETECTOR.

SENSOR, SMOKE.—See IONIZATION SMOKE DETECTOR, PHOTOELECTRIC BEAM TYPE SMOKE DETECTOR, PHOTOELECTRIC SPOT TYPE SMOKE DETECTOR and RESISTANCE BRIDGE SMOKE DETECTOR.

SHUNT.—(1) A deliberate shorting-out of a portion of an electric circuit. (2) A key-operated switch which removes some portion of an alarm system for operation, allowing entry into a PROTECTED AREA without initiating an ALARM SIGNAL. A type of AUTHORIZED ACCESS SWITCH.

SHUNT SWITCH.—See SHUNT.

SIGNAL RECORDER.—See REGISTER.

SILENT ALARM.—A REMOTE ALARM without an obvious local indication that an alarm has been transmitted.

SILENT ALARM SYSTEM.—An alarm system which signals a remote station by means of a silent alarm.

SINGLE CIRCUIT SYSTEM.—An ALARM CIRCUIT which routes only one side of the circuit through each sensor. The return may be through either ground or a separate wire.

SINGLE-STROKE BELL.—A bell which is struck once each time its mechanism is activated.

SLASHING REGISTER.—See REGISTER, SLASHING.

SMOKE DETECTOR.—A device which detects visible or invisible products of combustion. See also IONIZATION SMOKE DETECTOR, PHOTOELECTRIC BEAM TYPE SMOKE DE-

TECTOR, PHOTOELECTRIC SPOT TYPE SMOKE DETECTOR, and RESISTANCE BRIDGE SMOKE DETECTOR.

SOLID STATE.—(1) An adjective used to describe a device such as a semiconductor transistor or diode. (2) A circuit or system which does not rely on vacuum or gas-filled tubes to control or modify voltages and currents.

SONIC MOTION DETECTOR.—A sensor which detects the motion of an intruder by his disturbance of an audible sound pattern generated within the protected area.

SOUND SENSING DETECTION SYSTEM.—An alarm system which detects the audible sound caused by an attempted forcible entry into a protected structure. The system consists of microphones and a CONTROL UNIT containing an amplifier, ACCUMULATOR, and a power supply. The unit's sensitivity is adjustable so that ambient noises or normal sounds will not initiate an ALARM SIGNAL. However, noises above this preset level or a sufficient accumulation of impulses will initiate an alarm.

SOUND SENSOR.—A sensor which responds to sound; a microphone.

SPACE PROTECTION.—See AREA PROTECTION.

SPOOFING.—The defeat or compromise of an alarm system by "tricking" or "fooling" its detection devices such as by short circuiting part or all of a series circuit, cutting wires in a parallel circuit, reducing the sensitivity of a sensor, or entering false signals into the system. Spoofing contrasts with CIRCUMVENTION.

SPOT PROTECTION.—Protection of objects such as safes, art objects, or anything of value which could be damaged or removed from the premises.

SPRING CONTACT.—A device employing a current-carrying cantilever spring which monitors the position of a door or window.

STANDBY POWER SUPPLY.—Equipment which supplies power to a system in the event the primary power is lost. It may consist of batteries, charging circuits, auxiliary motor generators or a combination of these devices.

STRAIN GAUGE ALARM SYSTEM.—An alarm system which detects the stress caused by the weight of an intruder as he moves about a building. Typical uses include placement of the strain gauge sensor under a floor joist or under a stairway tread.

STRAIN GAUGE SENSOR.—A sensor which, when attached to an object, will provide an electrical response to an applied stress upon the object, such as a bending, stretching or compressive force.

STRAIN SENSITIVE CABLE.—An electrical cable which is designed to produce a signal whenever the cable is strained by a change in applied force. Typical uses including mounting it in a wall to detect an attempted forced entry through the wall, or fastening it to a fence to detect climbing on the fence, or burying it around a perimeter to detect walking or driving across the perimeter.

SUBSCRIBER'S EQUIPMENT.—That portion of a CENTRAL STATION ALARM SYSTEM installed in the protected premises.

SUBSCRIBER'S UNIT.—A CONTROL UNIT of a CENTRAL STATION ALARM SYSTEM.

SUPERVISED LINES.—Interconnecting lines in an alarm system which are electrically supervised against tampering. See also LINE SUPERVISION.

SUPERVISORY ALARM SYSTEM.—An alarm system which monitors conditions or persons or both and signals any deviation from an established norm or schedule. Examples are the monitoring of signals from guard patrol stations for irregularities in the progression along a prescribed patrol route, and the monitoring of production or safety conditions such as sprinkler water pressure, temperature, or liquid level.

SUPERVISORY CIRCUIT.—An electrical circuit or radio path which sends information on the status of a sensor or guard patrol to an ANNUNCIATOR. For INTRUSION ALARM SYSTEMS, this circuit provides LINE SUPERVISION and monitors TAMPER DEVICES. See also SUPERVISORY ALARM SYSTEM.

SURREPTITIOUS.—COVERT, hidden, concealed, or disguised.

SURVEILLANCE.—(1) Control of premises for security purposes through alarm systems, closed circuit television (CCTV), or other monitoring methods. (2) Supervision or inspection of industrial processes by monitoring those conditions which could cause damage if not corrected. See also SUPERVISORY ALARM SYSTEM.

TAMPER DEVICE.—(1) Any device, usually a switch, which is used to detect an attempt to gain access to intrusion alarm circuitry, such as by removing a switch cover. (2) A monitor circuit to detect any attempt to modify the alarm circuitry, such as by cutting a wire.

TAMPER SWITCH.—A switch whch is installed in such a way as to detect attempts to remove the enclosure of some alarm system components such as control box doors, switch covers, junction box covers, or bell housings. The alarm component is then often described as being "tampered".

TAPE.—See FOIL.

TAPPER BELL.—A SINGLE-STROKE BELL designed to produce a sound of low intensity and relatively high pitch.

TELEPHONE DIALER, AUTOMATIC.—A device which, when activated, automatically dials one more pre-programmed telephone numbers (e.g., police, fire department) and relays a recorded voice or coded message giving the location and nature of the alarm.

TELEPHONE DIALER, DIGITAL.—An automatic telephone dialer which sends its message as a digital code.

TERMINAL RESISTOR.—A resistor used as a TERMINATING DEVICE.

TERMINATING CAPACITOR.—A capacitor sometimes used as a terminating device for a CAPACITANCE SENSOR antenna. The capacitor allows the supervision of the sensor antenna, especially if a long wire is used as the sensor.

TERMINATING DEVICE.—A device which is used to terminate an electrically supervised circuit. It makes the electrical circuit continuous and provides a fixed IMPEDANCE reference (end of line resistor) against which changes are measured to detect an ALARM CONDITION. The impedance changes may be caused by a sensor, tampering, or circuit trouble.

TIME DELAY.—See ENTRANCE DELAY and EXIT DELAY.

TIME DIVISION MULTIPLEXING (TDM).—See MULTIPLEXING, TIME DIVISION.

TIMING TABLE.—That portion of CENTRAL STATION equipment which provides a means for checking incoming signals from McCULLOH CIRCUITS.

TOUCH SENSITIVITY.—The sensitivity of a CAPACITANCE SENSOR at which the ALARM DEVICE will be activated only if an intruder touches or comes in very close proximity (about 1 cm or $^1/_2$ in.) to the protected object.

TRAP.—(1) A device, usually a switch, installed within a protected area, which serves as secondary protection in the event a PERIMETER ALARM SYSTEM is successfully penetrated. Examples are a TRIP WIRE SWITCH placed across a likely path for an intruder, a MAT SWITCH hidden under a rug, or a MAGNETIC SWITCH mounted on an inner door. (2) A VOLUMETRIC SENSOR installed so as to detect an intruder in a likely traveled corridor or pathway within a security area.

TRICKLE CHARGE.—A continuous direct current, usually very low, which is applied to a battery to maintain it at peak charge or to recharge it after it has been partially or completely discharged. Usually applied to nickel cadmium (NICAD) or wet cell batteries.

TRIP WIRE SWITCH.—A switch which is actuated by breaking or moving a wire or cord installed across a floor space.

TROUBLE SIGNAL.—See BREAK ALARM.

UL.—See UNDERWRITERS LABORATORIES, INC.

UL CERTIFICATED.—For certain types of products which have met UL requirements, for which it is impractical to apply the UL Listing Mark or Classification Marking to the individual product, a certificate is provided which the man-

ufacturer may use to identify quantities of material for specific job sites or to identify field installed systems.

UL LISTED.—Significes that production samples of the product have been found to comply with established Underwriters Laboratories requirements and that the manufacturer is authorized to use the Laboratories' Listing Marks on the listed products which comply with the requirements, contingent upon the follow-up services as a check of compliance.

ULTRASONIC.—Pertaining to a sound wave having a frequency above that of audible sound (approximately 20,000 Hz). Ultrasonic sound is used in ultrasonic detection systems.

ULTRASONIC DETECTION SYSTEM.—See ULTRASONIC MOTION DETECTOR and PASSIVE ULTRASONIC ALARM SYSTEM.

ULTRASONIC FREQUENCY.—Sound frequencies which are above the range of human hearing; approximately 20,000 Hz and higher.

ULTRASONIC MOTION DETECTOR.—A sensor which detects the motion of an intruder through the use of ULTRASONIC generating and receiving equipment. The device operates by filling a space with a pattern of ultrasonic waves; the modulation of these waves by a moving object is detected and initiates an ALARM SIGNAL.

UNDERDOME BELL.—A bell most of whose mechanism is concealed by its gong.

UNDERWRITERS LABORATORIES, INC. (UL).—A private independent research and testing laboratory which tests and lists various items meeting good practice and safety standards.

VIBRATING BELL.—A bell whose mechanism is designed to strike repeatedly and for as long as it is activated.

VIBRATING CONTACT.—See VIBRATION SENSOR.

VIBRATION DETECTION SYSTEM.—An alarm system which employs one or more CONTACT MICROPHONES or VIBRATION SENSORS which are fastened to the surfaces of the area or object being protected to detect excessive levels of vibration. The contact microphone system consists of microphones, a CONTROL UNIT containing an amplifier and an ACCUMULATOR, and a power supply. The unit's sensitivity is adjustable so that ambient noises or normal vibrations will not initiate an ALARM SIGNAL. In the vibration sensor system, the sensor responds to excessive vibration by opening a switch in a CLOSED CIRCUIT SYSTEM.

VIBRATION DETECTOR.—See VIBRATION SENSOR.

VIBRATION SENSOR.—A sensor which responds to vibrations of the surface on which it is mounted. It has a NORMALLY CLOSED SWITCH which will momentarily open when it is subjected to a vibration with sufficiently large amplitude. Its sensitivity is adjustable to allow for the different levels of normal vibration, to which the sensor should not respond, at different locations. See also VIBRATION DETECTION SYSTEM.

VISUAL SIGNAL DEVICE.—A pilot light, ANNUNCIATOR or other device which provides a visual indication of the condition of the circuit or system being supervised.

VOLUMETRIC DETECTOR.—See VOLUMETRIC SENSOR.

VOLUMETRIC SENSOR.—A sensor with a detection zone which extends over a volume such as an entire room, part of a room, or a passageway. ULTRASONIC MOTION DETECTORS and SONIC MOTION DETECTORS are examples of volumetric sensors.

WALK TEST LIGHT.—A light on motion detectors which comes on when the detector senses motion in the area. It is used while setting the sensitivity of the detector and during routine checking and maintenance.

WATCHMAN'S REPORTING SYSTEM.—A SUPERVISORY ALARM SYSTEM arranged for the transmission of a patrolling watchman's regularly recurrent report signals from stations along his patrol route to a centrol supervisory agency.

ZONED CIRCUIT.—A circuit which provides continual protection for parts or zones of the PROTECTED AREA while normally used doors and windows or zones may be released for access.

ZONES.—Smaller subdivisions into which large areas are divided to permit selective access to some zones while maintaining other zones secure and to permit pinpointing the specific location from which an ALARM SIGNAL is transmitted.

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