



Designation: F967 – 03 (Reapproved 2018)

Standard Practice for Security Engineering Symbols¹

This standard is issued under the fixed designation F967; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This practice utilizes symbols to depict security systems and equipment requirements for architectural or engineering drawings that are produced either manually or by computer aided design (CAD). The symbols depicted include some symbols that have already been somewhat universally accepted or that have already been adopted by a standards-writing body, such as by the National Fire Protection Association.

1.2 It is not proposed that all of the symbols need to be utilized since the level of detail required for drawings is likely to vary. Generic symbols of a class of security device may be sufficient in some instances. Moreover, the need to provide a measure of security in the actual drawing may also suggest a need to utilize a generic symbol rather than to depict the exact device being installed.

1.3 In the event that a greater level of detail is required, it is possible to combine many of the symbols to create new symbols that achieve the desired level. While some combinations of symbols are shown, it would be impractical to attempt to depict every conceivable combination of symbols. It is also the intent of this practice that the symbols be capable of being continuously expanded and modified as the industry state of the art changes or as emphasis varies. For example, little attention is given to document security in the security symbols since such requirements are not generally fully met during construction periods but are rather developed and provided for subsequently. Since much of this equipment is not installed but is “placed,” such as furniture, there is only one symbol proposed (for example, for document shredders).

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety, health, and environmental practices and determine the applicability of regulatory limitations prior to use.*

¹ This practice is under the jurisdiction of ASTM Committee F12 on Security Systems and Equipment and is the direct responsibility of Subcommittee F12.10 on Systems Products and Services.

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1.5 *This international standard was developed in accordance with internationally recognized principles on standardization established in the Decision on Principles for the Development of International Standards, Guides and Recommendations issued by the World Trade Organization Technical Barriers to Trade (TBT) Committee.*

2. Keywords

2.1 computer aided design; security engineering; symbols


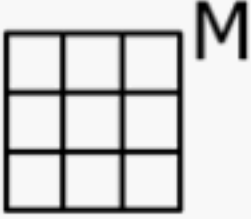


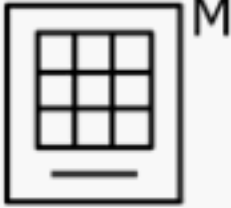


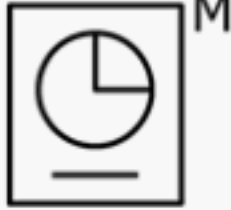







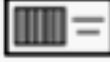
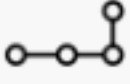

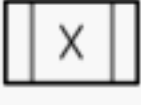

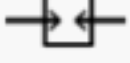

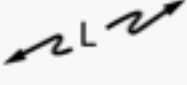


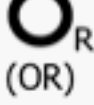






1. ANNOTATION

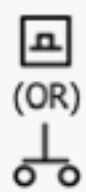
	Existing Equipment
	Point and Zone Indicator
	Connection Between Devices (for example, button and lock)
	Detail and Reference Drawing
	Door Number (if more than one door in room, use sub-letter)
	Room or Space Number
	Device Number (reference device schedule)
	Device Reference A = Drawing Sheet B = Detail C = Device /Zone Number

2. ACCESS CONTROL

	Generic Card Reader (reference door schedule or specifications for type): P = pedestal mount
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	Card Reader with Touch Pad		Keypad Device
	Token-Type Access Control		
	CCTV and Card Reader		Card Reader with Keypad
	CCTV and Intercom		
	Split Lens CCTV with ID Card Receptacle		Card Reader with Time and Attendance
	Apartment Type CCTV with House Phone and Touch Pad (insert "K" " ", as appropriate for key switch)		3. ANNUNCIATION: CONSOLE/PANEL Strip (Tallyroll) Printer
	Biometric Access Control Device (reference door schedule or specifications for type)		Printer
	Touch Pad Lock or Device, Mechanical or Electronic (reference door schedule for type)		Time Clock with Card Reader
	Turnstile (reference door schedule for type and function)		Central Processing Unit
	Post and Rail (rope)		CRT (cathode ray tube/display)
	Generic Screening Device X: M = Metal Detector E = Explosive Detector X = X-ray T = Tag Detector (EAS)		Static Map Display (for dynamic map display, use CRT symbol)
	Sally Port		Keyboard
	Indicating Interlocking Doors		Jeweled Signal Light
	Indicating Space is a "Man-Trap"		Panel Light Indicator (R = Red, A = Amber, W = White, V = Violet, G = Green, Y = Yellow, B = Blue, O = Orange)
	Card Access Reader B = Barcode W = Wiegand P = Proximity M = Mag Stripe F = Elevator Floor Call H = Elevator Hall Call T = Token S = Smart Card		Multiplex Panel
	Biometrics Access Control Device H = Hand Geometry F = Finger Print V = Voice R = Eye Retina I = Eye Iris		Panel Sound Indicator
			Panel Sound and Light Indicator
			Reset



Push-Button, Momentary/Make (circuit closing)



Time Delay Module



Control Device Module, Door Release



End-of-Line Device Module



Resistance (Ohms) (indicate value; that is, 10 000 Ω)



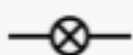
Thousands



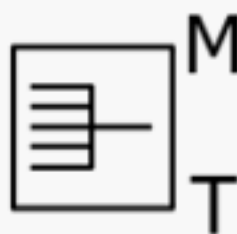
Dry Contacts, Set



Contacts with Current



Power Switch



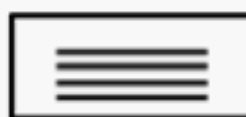
Field Panel
T: C = Card Reader
A = Alarm



Control Panel
T: B = Burglar
F = Fire
P = Perimeter
D = Door



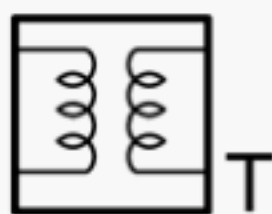
Central Processing Unit



Keyboard

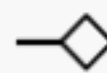


Printer



Power Supply
T: L = Lock
C = Camera
P = Panel
I = Intercom

4. ANNUNCIATION: DEVICES



Annunciation Device, Generic



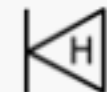
Buzzer



Generic Bell



Generic Chime

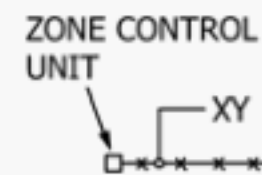


Generic Security Horn (differentiate from fire horn; use also for local alarm)



Audio Device
T: L = Lock
C = Camera
I = Intercom

5. BARRIERS AND VEHICLE CONTROLS



Generic Fence (reference type in specification or schedule)

X: (Fence Type)

Y: (Sensor Type, see below)



Generic Masonry (reference type in specification or schedule)

X: C = Chain Link; W = Welded Mesh;

B = Barbed Top; R = Razor Ribbon

Y: E = Electrostatic; T = Taut Wire;

V = Vibration



Ditch Barrier



Ditch and Berm Barrier



Roll-Up Gate



Sliding Gate



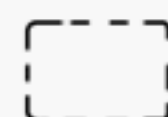
Swing Gate



Traffic Arm



Traffic Lights (use "M" for miniature)



Generic Vehicle Sensor (reference specification or schedule for type)



	Tire Treddle
	Security Grill with Emergency Release
	Security Grill
	Generic Security Screen
	Repair/Secure Window Operator (use "R" for repair, "S" for security)
	Turnstile
	Revolving Door
	Traffic Arm
	Vehicle Loop Detector
	Security Window Screen T: S = Shade B = Blind (see Section 10 for alarm screen)

6. COMMUNICATIONS

	Telephone Handset
	Intercom, Master, Hands-Free (use "S" for slave or sub)
	Intercom, Push-to-Talk
	Generic Speaker (reference specification or schedule for type)
	Nurse Station, Master, Wall Mount (use "D" for desk mount)
	Nurse Call System Device, Generic

	Paging System Device, Generic
	Private Telephone System Device, Generic
	Public Telephone System Device, Generic
	Two-Way Radio Base Station
	Flush Mount Panel Board/Cabinet
	Surface Mount Panel Board/Cabinet
	Intercom T: M = Master S = Substation
	Two-Way Radio Microphone
	Cellular Transmitter
	Telephone Dialer T: D = Digital Communicator V = Voice Dialer
	Fiber Optic Module T: Tx = Transmitter R = Receiver T = Transceiver

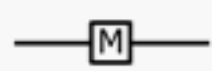
7. ELECTRICAL

	Resistor
	End-of-Line Device
	Amplifier
	Antenna



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	Antenna, Loop		Junction Box, in Ceiling
	Battery		Junction Box, Wall
	Stand-By Battery		Electrical Outlet, Wall, Duplex
	Capacitor		Triplex Receptacle
	Circuit Breaker		Intersection, No Connection
	Ground		Intersection, Connection
	(OR)		Conduit Run, Exposed, Turn Down (rigid steel—1 in.)
	Circuit Return, Common		Conduit Run, Exposed, Armored
	Circuit Return, Frame		Conduit Run, Concealed, Turn Up (EMT)
	Relay, Normally Open		Conduit Run, Exposed, Turn Up (PVC)
	Relay, Normally Closed		Booster
	Relay		Shielded Cable
	Transformer		Coaxial Cable
	Transformer (on floor plan)		Conductor, Twisted Pair
	Rectifier		Conductor, Security System (4 conductors, No. 18 AWG)
	Diode		Fiber Optic Cable
	Visual Signaling Device		Local Radio Signal Link
	Fuse		Long Range Radio Signal Link
	Motor		Power Panel
	Generator		(OR)
			EP
			Home Run, 2 Conductors, 18 AWG (number of arrows indicates number of circuits)
			Feeder



Manhole



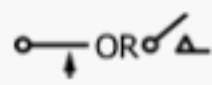
Rotary Switch



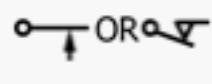
Toggle Switch, SPST



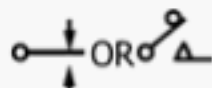
Toggle Switch, SPDT



Nonlocking, Momentary Circuit Closing (make)



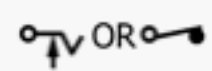
Nonlocking, Momentary Circuit Opening (break)



Transfer



Locking, Circuit Closing (make)



Locking, Circuit Opening (break)



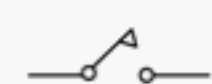
Form A, SPST, N.O.



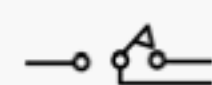
Form B, SPST, N.C.



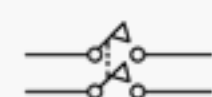
Form C, SPDT



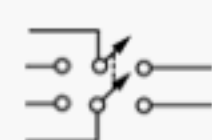
SPST (Single-Pole, Single-Throw)



SPDT (Single-Pole, Double-Throw)



DPST (Double-Pole, Single-Throw)



DPDT (Double-Pole, Double-Throw)

8. LIGHTING



Incandescent Light Fixture, Flush, Ceiling Mount



Incandescent Light Fixture, Flush, Wall Mount



Incandescent Light Fixture, Surface, Ceiling Mount



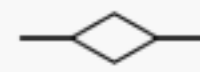
Incandescent Light Fixture, Surface, Wall Mount



Fluorescent Fixture, Ceiling Mount



Dedicated Security Lighting, Low Pressure Sodium (use other designators for other types, that is, MV = mercury vapor)



Minimum Foot-Candles or Lamberts this Area



Spotlight/Floodlight



Outdoor Strobe Light



Illuminate this Area



Infrared Illuminator

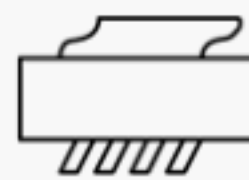


Street Light, Pole-Mounted

9. MISCELLANEOUS



Security Container; Safe; File Cabinet



Document Destroyer



Safe, Tack-Welded to Structural Member



Signage



Bar/Grill/Seal this Location



Timer



Gun Port

10. SENSORS



Generic Volumetric Motion Sensor (Mono)

X: M = Microwave

I = Passive IR

U = Ultrasonic

D = Dual Tech



Generic Volumetric Beam Sensor (Bi-Static)

X: M = Microwave

I = Infrared

P = Photo-cell



	Generic Glass Breakage Sensor T: A = Audio S = Shock
	Capacitance Sensor
	Temperature Sensor
	Pad/Mat Switch
	Bullet-Resistant Polycarbonate Glazing with Alarmed Conductive Layer
	Water Sensor
	Water Motion Sensor
	Generic Buried Sensor X: S = Seismic L = Leaky Coax M = Magnetic
	Strain Sensor
	Vibration/Shock Sensor (nonfence type)
	Sonic Sensor (audible, doppler shift)
	Sound Discriminator (responds to frequencies) (see also glass break sensor)
	Listen-in Audio Sensor
	Radar
	Sonar
	Seismic Sensor (local stimuli, point type)
	Strong Motion Seismic Sensor (earthquake)
	Bank Vault Sensor or Sensor Array
	Electronic Tag Sensor



Local Control Unit for Sensors



Explosive Dye-Pack Antenna



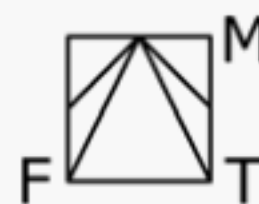
Break-Dowell Grid



Indicates "Lace this Partition"



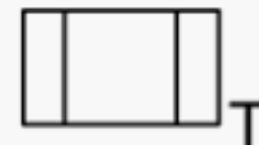
Motion Detector
T: M = Microwave
IR = Infrared
U = Ultrasonic
X = Request-for-Exit
D = Dual Technology



Bi-Static Beam Sensor
T: M = Microwave
I = Infrared
F: TX = Transmit
RX = Receive



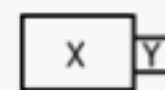
Security Screen with Alarm
T: S = Shade
B = Blind



Screening Device
T: M = Metal Detector
E = Explosives Detector
X = X-Ray
T = Tag Detector (EAS)
A = Access

11. CCTV

Generic Camera



X: P = Pan; A = Auto-Pan;
PT = Pan/Tilt; C = Concealed
Y: F = Fixed; Z = Zoom; S = Split

Refer to camera schedule and specification for:

- Type (CCD, film, intensified)
- Size (1/3 in.; 1/2 in.)
- Enclosure (environmental, explosion proof, "scoop")
- Mount (wall, ceiling, pole)
- Lens (type, size)
- Pan Pre-Sets
- Associated Alarm Switching
- Signal Transmission



Reference Monitor/Switching Schedule or Specifications for Size, Type, Mounting



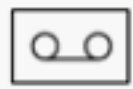
Pan Control



Zoom Control



Pan-Zoom-Tilt Control



Video Tape Recorder



Video Disc Recorder



Any Control Unit, Generic



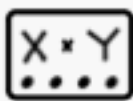
Auto Control Unit, Generic



Video Motion Detector



Screen Splitter (Video Multiplexer)



Microprocessor Based Switcher
X = Number of Inputs
Y = Number of Outputs



Distribution Amplifier



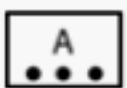
Ground Loop Corrector



Video Switcher Control Keyboard



CCTV Switcher, Passive, Manual



CCTV Switcher, Homing Sequential



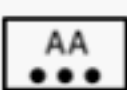
CCTV Switcher, Looping Input, Homing Sequential



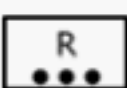
CCTV Switcher, Bridging Output, Sequential



CCTV Switcher, Looping Input, Bridging Sequential



CCTV Switcher, Auto Alarm Homing Sequential



CCTV Switcher, Remote

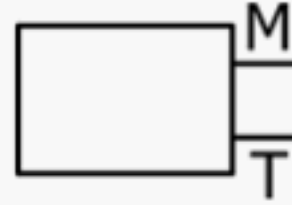


MATV Antenna



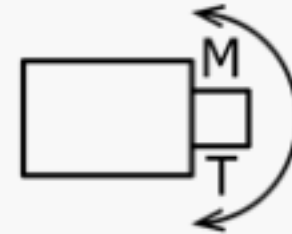
Monitor

T: *V* = Video
D = Data
G = Graphic
M = Multiscreen



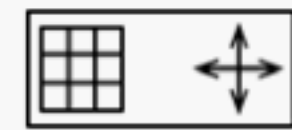
Camera

T: *S* = Scoop /Wedge
C = Corner
D = Dome
B = Board
E = Environmental

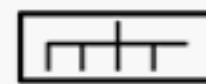


Camera with Pan/Tilt/Zoom

T: *D* = Dome
E = Environmental



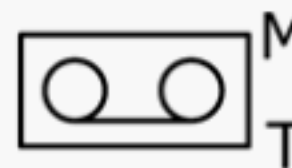
Video Control Keyboard



Video Multiplexer



Video Motion Detector



Recorder

T: *V* = Video
A = Audio
D = Digital

12. SWITCHES

Generic Switch

X: *D* = Door
S = Spring Loaded/Deadman
R = Roll-Up /Overhead Door
G = Gate
W = Window /Sliding Door
F = Footrail
T = Tamper
H = Hinge
P = Plunger /Roller
L = Level /Tilt /Mercury
B = Bill /Cash Drawer

(Reference door schedule or specification for gap, size, mounting, balanced, tampered, EOL resistor)



Generic Key Switch

X: *S* = Shunt
W = Watch-Tour Station
D = Door Release
R = Reset



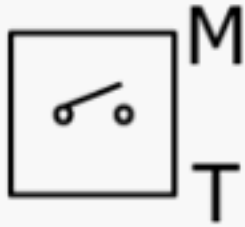


Keypad Switch



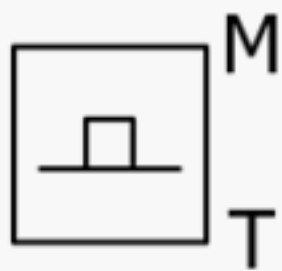
Automatic Monitoring Switch

T: T = Temp
 B = Bal. Mag
 H = Humidity
 W = Water
 L = Latch
 G = Gate



Manually Operated Switch

T: E = Emergency
 L = Lock
 F = Foot
 M = Mat
 H = Holdup



Push Button

T: P = Panic
 D = Duress
 X = Request-for-Exit
 R = Door Release
 B = Bell Push



Relay Switch

T: F = Fire Alarm



Hatch Door



Multi-Point Locking Door



Barricade Bar



Electromagnetic Lock

X: D = Door Switch



Electrified Lock Set

X: F = Fail-Safe
 S = Fail-Secure



Replace/Install Hinge (use "R" for repair, "I" for install)



Pin Hinge Pin or Replace with Security Hinge



Electric Hinge



Concealed Hinge

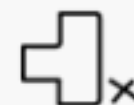


Hinge Switch, Bullet-Nose Type



Electric Strike

X: F = Fail-Safe
 S = Fail-Secure



Electric Bolt/Latch

X: F = Fail-Safe
 S = Fail-Secure



Security Fastener, Generic



Hasp Assy



Padlock



Mechanical Keypad Door Lock



Replace/Install Door (use "R" for repair, "I" for install)



Replace/Install Frame (use "R" for repair, "I" for install)



Replace/Install Door Closer (use "R" for repair, "I" for install)

13. DOOR AND LOCKING HARDWARE

Sliding Door



Lock (see specification for type)



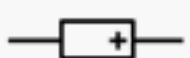
Roll-Up Door



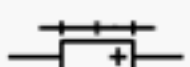
Security Curtain, Sliding/Rolling



Security Curtain, Roll-Down



Vault Door



Vault Door with Day Door



Bullet-Resistant Construction



Door with Vision Panel



Interlock Indication

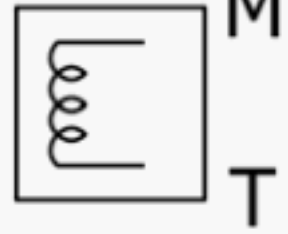


Door View Lens Viewer

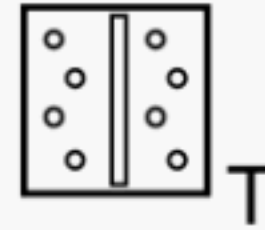


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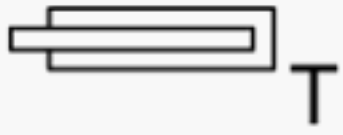
	Replace/Install Center Mullion		Positive Latching Lockset
	Escutcheon		Positive Latching and Locking Lockset
	Astragal		Combination Deadbolting and Positive Latching with Dual Action Thumb Lever One Side and Cylinder on Other
	Replace/Install Security Cylinder (use "R" for repair, "I" for install)		Deadbolt
	Key Lock		Deadlatch
	Secure Transom		Cam Lock
	Door Operator		
	Automatic Opener Actuation Pad		
	Automatic Opener, Microwave Type		
	Panic Hardware		
	Vertical Bolts in Header and Floor		
	Door Lock, Mortised (use "R" for rimlock)		
	With Local Alarm		
	With Cylinder Lock, Blank One Side		
	With Remote Alarm		
	With Local and Remote Alarm		
	With Cylinder Lock and Lever or Thumb Lever on One Side		
	Direction of Always Open		
	Direction of Always Locked		
	Key-In-Knob, Both Sides		
	Deadbolting Lockset		



Electronic Lock
T: M = Magnetic
S = Strike
L = Latch Set
H = Hybrid
D = Deadbolt



Power Transfer Hinge
T: 2 = Two-Wire
4 = Four-Wire, etc.

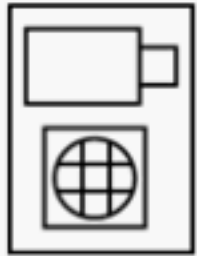


Exit Device
T: E = Electrified
M = Mechanical
D = Delayed Egress
X = High Security

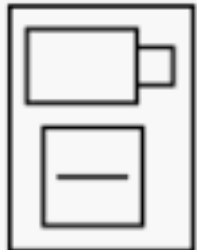
ANNEX

(Mandatory Information)

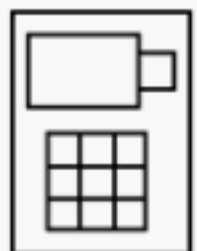
A1. SAMPLE COMBINATION DEVICES



Video Intercom



Camera with Card Reader



Camera with Keypad



Video Intercom Master
T: R = With Door Release

APPENDIX**(Nonmandatory Information)****X1. COMMENTARY**

X1.1 This commentary provides a brief history and rationale for a significant revision to this practice. This revision expanded the focus and intent of this standard beyond a practice for manual drafting to encompass computer aided design (CAD). This commentary also provides a technical source of reference for additional information related to, but beyond the scope of, this practice.

X1.2 The original practice was developed with the intent of providing consistency in the engineering symbols used for depiction of security system layout and design on architectural and engineering drawings, as detailed in the scope. At the time of conception, manual generation of these drawings was the most commonly used method, and the community of large system designers that would have use for such standard symbols was relatively small.

X1.3 Over time, advances in technology enabled effective generation of architectural and engineering drawings through CAD, as well as ancillary uses and linkages for the digitally stored symbols. As this capability and the security industry grew, numerous sets of new symbols were found on CAD

drawings with considerable inconsistency.

X1.4 In 1994 the Security Industry Association (SIA) and the International Association of Professional Security Consultants (IAPSC) proposed an update to this practice that would standardize the CAD symbols. It was decided that the CAD symbols should be added to the practice and should correlate to the manual symbols, since both CAD and manual drawing generation would continue to be used in actual practice. The CAD symbols were developed as icons, each intended to reflect a visual image associated with the security device it represents.

X1.5 The SIA/IAPSC Architectural Graphics Joint Standards Subcommittee works to maintain reflection of the current state of the art in security products through CAD symbols, and provides the paper depiction of the CAD symbols as a single source of cross reference in this practice. Additional information on CAD symbol libraries, associated CAD files, and additional CAD layers may be obtained through the SIA/IAPSC Subcommittee.

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