Introductions

- Security Industry Association
- Security Specifiers
- International Association of Professional Security Consultants (IAPSC)
- Agenda
Security Industry Association (SIA)

- **Vision:** Be the primary resource for the global security industry.
- **Mission:** Be a catalyst for growth within the global security industry through information, insight and influence.
- **SIA protects and advances members' interests by:**
  - advocating pro-industry policies and legislation on Capitol Hill and throughout the 50 states
  - producing leading-edge global market research
  - creating open industry standards that enable integration
  - advancing industry professionalism through education and training
  - opening global market opportunities
Security Specifiers

- Promote A&E awareness within the industry
- Maintain a comprehensive database of specifiers
- Resource for security designers, engineers, and specifiers
- Act as a catalyst for improvement

  - Specification Process
  - Standards
  - Cyber Security
Sponsors

Diamond
- Altronix
- Axis Communications
- ASSA ABLOY

Gold
- Digital Watchdog
- HikVision
- EM2
- Optex
- Security Industry Association
International Association of Professional Security Consultants (IAPSC)

- Widely respected and recognized association of security consultants
- Rigid membership requirements
- Enables potential clients to select from an elite group of professional, ethical and competent security consultants.
- Largest group of “certified independent” specifiers in the world
Agenda

- SIA Architectural Graphics Report
- CSI Division 28 Update Recommendations

Peter Michael, P.E. PSP PMP MEng
SAIC Security Solutions Architect
Chair SIA CAD Symbols R3
• 1995 SIA Release CAD Standards
  • Aligned with ASTM F967
  • Updated in 2000
  • New update for 2015

• Computer Symbol Library
  • Standard for uniformity
  • For use by Architects, Engineers, Security & more

• Precedence
  • Local Codes
  • RFP Requirements
  • Client Requirements
  • This Standard
• New for 2015
  • Updated Text
  • Updated AutoCAD
  • Visio
  • JPG / PNG format

• New Sections / Organization
  • Guide for Using
  • Symbols for technology
• Appendix A 10 Technology Areas
  • Annotation
  • Access Control
  • Processors & Interfaces
  • Annunciators & Switches
  • Doors & Barriers
  • Communications
  • Power Supplies
  • Intrusion Sensors
  • Video Surveillance
  • Screening Devices
  • Addendum
    • Methods to combine devices
    • Glossary
<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1" alt="Symbol" /></td>
<td>AC-DC Power Supply (converter AC to DC)</td>
</tr>
<tr>
<td><img src="image2" alt="Symbol" /></td>
<td>DC-AC Power Supply (inverter DC to AC)</td>
</tr>
<tr>
<td><img src="image3" alt="Symbol" /></td>
<td>UPS Uninterruptible Power Supply</td>
</tr>
<tr>
<td><img src="image4" alt="Symbol" /></td>
<td>DC-DC converter</td>
</tr>
<tr>
<td><img src="image5" alt="Symbol" /></td>
<td>BATT Electrical Storage Device</td>
</tr>
<tr>
<td><img src="image6" alt="Symbol" /></td>
<td>Power Distribution Unit (F - Fuse, P - Solid state PTC)</td>
</tr>
<tr>
<td><img src="image7" alt="Symbol" /></td>
<td>POE Power over Ethernet</td>
</tr>
</tbody>
</table>
# SIA/IAPSC CAD Security Symbols

## 2. ACCESS CONTROL

### 2.01 CARD
- **Card**
  - B - Barcode
  - W - Wiegand
  - P - Proximity
  - M - Mag Swipe
  - F - Elevator Floor Call
  - H - Elevator Hall Call
  - T - Token
  - S - Smart Card

### 2.02 BIO
- **Biometric**
  - H - Hand Geometry
  - F - Finger Print
  - V - Voice
  - R - Eye Retina
  - I - Eye Iris
  - FC - Face
  - VN - Vein

### 2.03 KEYPAD
- **Keypad**

### 2.04 TIME
- **Time and / or Attendance**
**ADDENDUM A: SAMPLE COMBINATION DEVICES**

This section describes how combination devices can be created with any of the CAD symbols shown in the Appendix.

- Symbols should be sized to clearly show each device
- Any combination can be created
- A rectangle shall encompass all the devices into a single box

<table>
<thead>
<tr>
<th>Combination</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="Cardreader with Biometric and Keypad" /></td>
<td>Cardreader with Biometric and Keypad</td>
</tr>
<tr>
<td><img src="image" alt="Biometric Time / Attendance" /></td>
<td>Biometric Time / Attendance</td>
</tr>
<tr>
<td><img src="image" alt="Camera with Keypad" /></td>
<td>Camera with Keypad</td>
</tr>
</tbody>
</table>
• New Standard to be complete middle of this year
• Available from SIA
• Included:
  • PDF of Standard
  • CAD files in AutoCAD, Visio, and JPG / PNG format
CSI MasterFormat Update Recommendation

“national association of more than 13,000 volunteers, including specifiers, architects, engineers, contractors, facility managers, product representatives, manufacturers, owners and others who are experts in building construction and the materials”

www.csinet.org

- industry standard for specifications, estimates and product data
- master list of numbers and titles classified by work results
- used to
  - organize project manuals and detailed cost information
  - relate drawing notations to specifications
- Divisions impacting Security
  - 28: Electronic Safety and Security
  - 8: Openings
  - 27: Communications

www.csinet.org/numbersandtitles
Main Areas

- **28 10 00** Electronic Access Control and Intrusion Detection
- **28 20 00** Electronic Surveillance
  - Includes video surveillance, electronic personal protection
- **28 30 00** Electronic Detection and Alarm
  - Includes fire detection and alarm, various sensors, mass notification
- **28 40 00** Electronic Monitoring and Control
  - Includes detention monitoring and control, structural monitoring
Approach

- May 2014: SecuritySpecifiers requested SIA to support this effort. SIA contacts CSI.
- Jun/July: SIA members and SecuritySpecifiers database contacted. ~100 responses of interest.
- August: CSI process orientation.
- November: Working groups formed.
- Jan 2015: First draft completed.
- February: Draft reviewed with CSI.
- March: Second draft completed and reviewed with CSI.
- April: Final recommendations completed and submitted to CSI.
Areas of Focus and Group Leaders

- Access Control: Marcus Batten (Allegion), Ben Williams (Assa Abloy)
- Video: Rene Rieder (Arup)
- Intrusion: Charlie Howell (Division 28 Consulting)
- Sound & Emergency Communications: Brad Black (Stantec)
- Security Cabling & Power: Lorna Chandler (Security by Design)
- Security Communications: Ron Ronacher (Arup)
Areas of Focus and Group Leaders

- Integrated Systems: Ben Butchko (Butchko Inc.)
- PSIM: Bill Morehouse (Verint)
- Storage: Ray Coulombe (SecuritySpecifiers)
- Testing: Lorna Chandler (Security by Design)
- Monitoring & Control: Jeff Pronschinske (Mead & Hunt)
- Detection & Alarm: Ted Milburn (Eaton)
- Special Systems: Jim Pangburn (Jacobs Engineering)
Proposed Recommendations

Main Areas

- Access Control
- Video Surveillance
- Security Detection, Alarm, and Monitoring
- Life Safety
- Specialized Systems
  - Information Management and Display
  - Detention Security Systems
Major Proposed Changes

- **Access Control** (old: Access Control and Intrusion Detection)
  - Unbundled from Intrusion Detection
  - Reduce conflicts with Division 8 (Openings)

- **Video Surveillance** (old: Electronic Surveillance)
  - Separated out Personal Protection Systems

- **Security Detection, Alarm, & Monitoring** (old: Electronic Detection & Alarm)
  - Added Intrusion and other security functions
  - Separated out Fire Detection and Alarm

- **Life Safety** (old: Electronic Detection & Alarm)
  - To include Personal Protection, Fire Detection and Alarm, various sensors, Mass Notification, Emergency Response

- **Specialized Systems**
  - Information Management and Display
  - Detention Security Systems (old: Electronic Monitoring and Control)
Major Proposed Changes

- Cabling and cable support systems to Division 27 (Communications)
- Added to Common Work Results (28 05 00):
  - Security Communications
  - Servers, Storage, and Workstations
  - Systems Integration
  - Power Sources
  - Cyber Requirements
- Other Additions:
  - Tracking systems
  - Audio Monitoring
  - Cloud Services
- Greater granularity and detail
- Comments on other divisions
General
Conductors and Cables

- Move to 27 15 01 (Communications Horizontal Cabling Applications)
  - Conductors and Cables for Electronic Safety and Security
    - Video Surveillance Communications Conductors and Cables
    - Access Control Communications Conductors and Cables
    - Intrusion Detection Communications Conductors and Cables
    - Fire Alarm Communications Conductors and Cables

- Move to 27 05 xx
  - Grounding and Bonding for Electronic Safety and Security
  - Pathways for Electronic Safety and Security
  - Hangers and Supports for Electronic Safety and Security
  - Conduits and Backboxes for Electronic Safety and Security
  - Cable Trays for Electronic Safety and Security
  - Surface Raceways for Electronic Safety and Security
General Power

- Power Sources for Electronic Safety and Security
  - Power Sources for Access Control
  - Power Sources for Video Surveillance
  - Power Sources for Intrusion Detection
  - Power Sources for Fire Detection and Alarm
  - Solar Power Sources for Electronic Safety and Security
  - PoE Power Sources for Electronic Safety and Security
  - Uninterruptible Power Supply
  - Power Source Monitoring
    - Power Source Monitoring Appliances
    - Power Source Monitoring Software
General Power

- Surge Protection for Electronic Safety and Security
- Surge Protection for Access Control
- Surge Protection for Video Surveillance
- Surge Protection for Intrusion Detection
- Surge Protection for Fire Detection and Alarm
General Communications

- Communications Equipment for Electronic Safety and Security
  - Safety and Security Data Communications Network Equipment
    - Security Data Communications - Firewalls
    - Security Data Communications - Routers
    - Security Data Communications Power-Over-Ethernet Switches
    - Security Data Communications Non-Power-Over-Ethernet Switches
    - Security Data Communications Media Converters
  - Security Data Communications Transmission Equipment – Wireless
    - Microwave Transmission Equipment
General Communications

- Communications Equipment for Electronic Safety and Security
  - Bi-Directional Amplifiers
  - Repeaters
  - Remote Repeaters
- Antennas
  - Donor Antennas
  - Multi-Band Antennas
  - Band Specific Antennas
  - Radiating Coaxial Cable
  - Other Antennas
General Communications

- Communications Equipment for Electronic Safety and Security
  - Signal Controllers
  - Splitter
  - Directional Couplers
  - Security Voice Communications
- Private Mobile Radio System
  - Base Station
  - Handheld Radio
General
Servers, Workstations, and Storage

- Servers, Workstations and Storage for Electronic Safety and Security
  - General Requirements for Servers and Storage
  - Servers for Electronic Safety and Security
  - Workstations for Electronic Safety and Security
- Storage Appliances for Electronic Safety and Security
  - Digital Video Recorders
  - Hybrid Digital Video Recorders
  - Network Video Recorders
- Network Attached Storage for Electronic Safety and Security
- Cloud Based Storage for Electronic Safety and Security
- Archival Systems for Electronic Safety and Security
  - Digital Tape Storage
  - Storage Media
- Storage Management Software for Electronic Safety and Security
General Systems Integration

- Systems Integration and Interconnection Requirements
  - Mechanical
  - Electrical
  - Information
Access Control

- Access Control Global Applications
- General Requirements for Access Control Systems
- Access Control Software and Database Management
  - Access Control Software
  - Access Control Operating Systems
  - Access Control Application Services
  - Access Control Mobile Applications
  - Access Control Software Interfaces
- Access Control System Hardware
  - Access Control Network Controllers
  - Access Control Door Controllers
  - Access Control Inputs and Outputs
  - Access Control Printers and Encoders
  - Access Control Enclosures
Access Control

Access Control Hardware Devices

Integrated Credential Readers and Field Entry Management
  Standard Card Readers
  Keypads
Biometric Identity Devices
  Combination Reader Devices
Access Control Credentials
  Access Control Cards
  Wireless Key Fobs
Electrified Locking Devices & Accessories
  Direct Interface
  Integrated Locking Devices
  Wireless Integrated Locking Devices
  Intelligent Ethernet Integrated Locking Devices
Status Monitoring and Egress Devices
Access Control

Access Control Hardware Devices
- Egress Management Devices
  - Magnetic lock delayed egress devices
  - Panic hardware delayed egress devices

Access Control Remote Devices
- Smart Phone Interface Requirements
- Wireless Access Control Devices

Telephone Entry Systems
- Intercom Entry Systems
  - Audio Intercom (analog)
  - Audio Video Intercom (analog)
  - Audio Intercom (IP)
  - Audio Video Intercom (IP)

Electronic Key Management Systems

Access Control Electronic Turnstiles & Mobility Systems
Access Control

Access Control Interfaces

- Access Control Interfaces to Access Control Hardware
- Access Control Interfaces to Intrusion Detection
- Access Control Interfaces to Video Surveillance
- Access Control Interfaces to Fire Alarm
- Access Control Interfaces to Enterprise Software
- Access Control Interfaces to Mechanical Systems
- Access Control Interfaces to Electrical Systems
- Access Control Interfaces to Electronic Key Management System
- Access Control Interfaces to Elevator Controls
- Access Control Interfaces to Parking Equipment
- Access Control Interfaces to Perimeter Security Systems
Access Control

Access Control Identification Management Systems
- Visitor Management Systems
- Self Check in and Kiosk Visitor Systems
- Contractor & Vendor Management Systems
- Mobile Access Identification Management Systems

Security Access Detection Equipment
- Security Access Metal Detectors
- Security Access X-Ray Equipment
- Security Access Explosive Detection Equipment
- Security Access Sniffing Equipment
Access Control

Access Control Vehicle Identification Systems
- Loading Dock Access Management Systems
- Parking Garage Access Management Systems
- Perimeter Vehicle Access Management Systems
Video Surveillance

- Surveillance Cameras
  - Analog Cameras
  - IP Cameras
    - Panoramic IP Cameras
  - Specialty Cameras
  - Camera Housings
  - Camera Mounts
  - Illuminators

- Video Management System
  - Video Management System Analytics
  - Video Management System Interfaces

- Video Surveillance Positioning Equipment
- Video Surveillance Sensors
Security Detection, Alarm, and Monitoring

- SECURITY DETECTION AND ALARM
  - Building Intrusion Detection
    - Building Intrusion Detection Control, GUI, and Logic Systems
    - Building Intrusion Detection Remote Devices and Sensors
  - Area and Perimeter Intrusion Detection
    - Area and Perimeter Intrusion Detection Systems
      - Fiber Optic Area and Perimeter Security Systems
      - Microwave Area and Perimeter Security Systems
      - Integrated Video Area and Perimeter Security Systems
      - Fixed Optical Beam Area and Perimeter Security Systems
      - LIDAR Area and Perimeter Security Systems
      - Coaxial Area and Perimeter Security Systems
    - Area and Perimeter Intrusion Detection Devices and Sensors
Security Detection, Alarm, and Monitoring

- **Intrusion Detection Interfaces**
  - Intrusion Detection Interfaces to Security Monitoring and Control
  - Intrusion Detection Interfaces to Access Control Hardware
  - Intrusion Detection Interfaces to Access Control System
  - Intrusion Detection Interfaces to Video Surveillance
  - Intrusion Detection Interfaces to Information Management and Presentation
  - Intrusion Detection Interfaces to Mass Notification
  - Intrusion Detection Interfaces to Life Safety
  - Intrusion Detection Interfaces to Fire Alarm
  - Intrusion Detection Interfaces to Temperature Controls
Security Detection, Alarm, and Monitoring

- SECURITY MONITORING AND CONTROL
  - Electronic Structural Monitoring Systems
  - Security Operations and Monitoring Center
  - Security Monitoring and Control
  - Software Security Monitoring and Control Services
Security Detection, Alarm, and Monitoring

SECURITY MONITORING AND CONTROL

Tracking Systems
- RF Asset Tracking Systems
- GPS Asset Tracking Systems
- Cellular Asset Tracking Systems

Personnel Tracking Systems
- RF Personnel Tracking Systems
- GPS Personnel Tracking Systems
- Cellular Personnel Tracking Systems

Audio Monitoring
- Audio Monitoring Devices
Life Safety

- **ELECTRONIC PERSONAL PROTECTION SYSTEMS**
  - Electronic Personal Safety Detection Systems
  - Electronic Personal Safety Alarm Annunciation and Control Systems
  - Electronic Personal Safety Interfaces to Remote Monitoring
  - Electronic Personal Safety Emergency Aid Devices
Life Safety

- **RADIATION DETECTION AND ALARM**
  - Radiation Detection and Alarm Control, GUI, and Logic Systems
  - Radiation Detection and Alarm
  - Integrated Audio Evacuation Systems
  - Radiation Detection Sensors
  - Radiation Dosimeters

- **GAS DETECTION AND ALARM**
  - Gas Detection and Alarm Control, GUI, and Logic Systems
  - Gas Detection and Alarm Integrated Audio Evacuation Systems
  - Gas Detection Sensors
Life Safety

- **FUEL OIL DETECTION AND ALARM**
  - Fuel Oil Detection and Alarm Control, GUI, and Logic Systems
  - Fuel Oil Detection and Alarm Integrated Audio Evacuation Systems
  - Fuel Oil Detection Sensors

- **REFRIGERANT DETECTION AND ALARM**
  - Refrigerant Detection and Alarm Control, GUI, and Logic Systems
  - Refrigerant Detection and Alarm Integrated Audio Evacuation Systems
  - Refrigerant Detection Sensors
Life Safety

- FIRE DETECTION AND ALARM
  - DETECTION AND INITIATION
    - Fire Sensors and Detectors
      - Linear heat Detection Sensors
      - Spot-type Heat Detection Sensors
      - Duct Smoke Detection Sensors
      - Beam Smoke Detection Sensors
      - Video Smoke Detection Sensors
      - Carbon-Monoxide Detection Sensors
      - Combination Sensors
      - Air Sampling Systems
      - Other Sensors
    - Other Initiating Devices
      - Fire Alarm Pull Stations
      - Fire Alarm Level Detector Switches
      - Fire Alarm Flow Switches
      - Fire Alarm Pressure Sensors
      - Sprinkler Supervisory Devices
Life Safety

- **FIRE ALARM**
  - Addressable Fire-Alarm Systems
  - Conventional Fire-Alarm Systems
  - Network Command Centers, Printers and Peripherals for Fire Systems
  - Protected Premise Systems
  - Proprietary Systems
  - Central Station Systems
  - Remote Station Systems
  - Public Emergency Alarm Reporting Systems
Life Safety

- Fire Alarm Notification Appliances
  - Fire Alarm Horns and Strobes
  - Fire Alarm Speakers
  - Fire Alarm Low Frequency Sounders
  - Wide Band Sounders
Life Safety

- **FIRE DETECTION AND ALARM EMERGENCY CONTROL FUNCTION INTERFACES**
  - Fire Detection and Alarm Interfaces to Remote Monitoring
  - Fire Detection and Alarm Interfaces to Access Control Hardware
  - Fire Detection and Alarm Interfaces to Intrusion Detection
  - Fire Detection and Alarm Interfaces to Video Surveillance
  - Fire Detection and Alarm Interfaces to Elevator Control
  - Other Fire Detection and Alarm Interfaces
Life Safety

- **Mass Notification**
  - General Requirements for Mass Notification
  - Mass Notification Software
  - Mass Notification Control Panels
  - Initiating Devices and Methods
    - Notification appliances and Methods - Indoors
    - Notification appliances and Methods - Outdoors
    - Notification appliances and Methods - Distributed Recipient
    - Notification appliances and Methods - Public Methods
Life Safety

- Mass Notification System Interfaces
  - Notification Interfaces to Access Control Systems
  - Notification Interfaces to Video Surveillance Systems
  - Notification Interfaces to Security Detection and Alarm
  - Notification Interfaces to Security Monitoring and Control
  - Notification Interfaces to Life Safety Systems
  - Notification Interfaces to Fire Detection and Alarm
  - Notification Interfaces to Detention Systems
  - Notification Interfaces to Emergency Response Systems
  - Notification Interfaces to Network and Facilities Monitoring
  - Notification Interfaces to Web Intelligence
  - Notification Interfaces to Traffic Management and Monitoring Systems
  - Notification Interfaces to Smart Phones
  - Notification Interfaces to Other External Subsystems
Life Safety

- Emergency Response Systems
  - Computer Aided Dispatch
Specialized Systems
Information Management and Display

- Information Management & Presentation
  - Information Management & Presentation Architecture
  - Data and Information Management
  - Information Interfaces to Connected Subsystems
    - Information Interfaces to Access Control Systems
    - Information Interfaces to Video Surveillance Systems
    - Information Interfaces to Security Detection and Alarm
    - Information Interfaces to Security Monitoring and Control
    - Information Interfaces to Mass Notification Systems
    - Information Interfaces to Life Safety Systems
Specialized Systems
Information Management and Display

- **Information Management & Presentation**
  - Information Interfaces to Connected Subsystems
  - Information Interfaces to Fire Detection and Alarm
  - Information Interfaces to Detention Systems
  - Information Interfaces to Emergency Response Systems
  - Information Interfaces to License Plate Recognition Systems
  - Information Interfaces to Facial Recognition Systems
  - Information Interfaces to Remote Data Structures
  - Information Interfaces to Network and Facilities Monitoring
  - Information Interfaces to Crowd Sourcing
Specialized Systems
Information Management and Display

- **Information Management & Presentation**
  - Information Interfaces to Connected Subsystems
  - Information Interfaces to Web Intelligence
  - Information Interfaces to Traffic Management and Monitoring Systems
  - Information Interfaces to Environmental Monitoring Systems
  - Information Interfaces to Directly Connected Sensors
  - Information Interfaces to Other Safety and Security Subsystems
  - Information Interfaces to Other External Subsystems
Specialized Systems
Information Management and Display

- Data Presentation
  - Maps
  - Visualization
  - Events/Alarms/Incidents
  - Video Workspace
  - Dispatch/Notification
  - Review and Investigation
  - Reporting

- Control Room and Monitoring Equipment
  - Display/Workstations
  - Video Walls
  - Audio Equipment
  - Remote Displays
Specialized Systems
Detention Security Systems

- Detention Monitoring and Control Systems
- Detention Interfaces to Connected Subsystems
  - Detention Interfaces to Access Control Systems
  - Detention Interfaces to Video Surveillance Systems
  - Detention Interfaces to Security Detection and Alarm
  - Detention Interfaces to Security Monitoring and Control
  - Detention Interfaces to Duress Alarm Systems
  - Detention Interfaces to Distributed Television Systems
  - Detention Interfaces to Perimeter Security Systems
Specialized Systems
Detention Security Systems

- **Detention Security Systems**
  - Video Support Systems for Detention
    - Video Interrogation System
    - Video Arraignment System
    - Video Visitation System
Next Actions

- Recommendations to be reviewed by CSI
- Approval committee to meet in August
- We will be advised of approved changes 4Q 2015
- 2015 MasterFormat published early 2016
- SIA to maintain Div. 28 Update Committee
Important Links

- SecuritySpecifiers  www.securityspecifiers.com
  (This Presentation and Data Posting)

- CSI
  - Main  www.csinet.org
  - MasterFormat 2014  www.csinet.org/numbersandtitles

- SIA  www.securityindustry.org

- IAPSC  www.iapsc.org