SOFTWARE OVERVIEW

The next generation of security & facility management systems
Best Access Systems Integrated Solutions (B.A.S.I.S.)® system for Microsoft Windows® 98, 2000, 2003, NT, XP combines the power of access control, alarm monitoring, ID card production, and personnel management into a single seamlessly integrated software solution! One powerful and easy-to-use system allows you to create and encode identification cards, assign cardholders access to restricted areas, and monitor security zones. This comes complete with context-sensitive help.

Seamless integration means single system efficiency
A single seamlessly integrated solution for badge creation, ID management, access control, and alarm monitoring. Every step is simplified, easy to perform, and tightly integrated to provide optimum efficiency and maximum security. This uses a single database server to ensure data integrity, allow for real time security operations, and simplify system administration tasks.

Truly distributed network architecture
Wiring from access control panels does not have to run to a central host computer, unlike traditional systems that must have all panels wired to a single PC. We allow you to control access to any secured area and monitor any alarm from any PC on the network.

Open architecture design means optimum flexibility
Supports an unlimited number of workstations, card readers, and cardholders. Its modularity allows you to easily upgrade or add equipment at any time, without replacing the software. It works with any industry standard network protocol and supports all industry standard ID card and reader technologies, including Wiegand, Proximity, bar code, and magnetic stripe. It also supports industry standard databases including Microsoft SQL Server, Oracle Server, and Microsoft Access Database Engine.

Easiest-to-use graphical user interface in the Industry
Using the keyboard or mouse, every important task can be accomplished in one or two steps! There are no overlapping windows, confusing nested screens, or excessive menu options found in other system’s.

Multimedia integration
Real-time, dynamic graphical maps mean that the graphical map screen will not have to repaint or refresh each time a new alarm or event condition occurs. It supports customizable voice alarm annunciation and flashing colored system icons for each alarm that occurs. It also supports text instructions and pre-recorded audio voice instructions. It integrates real-time live video user verification into alarm monitoring to allow guards to monitor cardholder activity in secure areas.

Seamless migration path
Upgrading is fast, efficient, and easy. All systems are 100% upwardly compatible. Even the graphical user interface is identical for all systems, meaning the upgrades are virtually transparent to the user.

Hot standby, fault tolerant server architecture
Supports a fault tolerant server and redundant database architecture to allow for normal operations to occur in the event that the database server fails. In the event of a server failure, it will automatically switch over to a backup server.

Complete solution
- Microsoft Windows® 98, 2000, 2003, NT, XP
- Simple Operation, Maximum Security
- Supports Standard ID Card Technologies
- Configuration Wizards
- Multi-Technology Cards
- Magnetic Stripe
- Complete Reporting Capabilities
- Data Import/Export Capabilities
- Proximity
- Wiegand
- Bar-code

E-Visitor
E-Visitor uses a customer’s existing desktop infrastructure, which means no additional software or hardware installation is required for existing client workstations. Other advanced features of E-Visitor include visitor pre-enrollment, visitor tracing, complete reporting capabilities and automatic e-mail notification of impending visits. E-Visitor provides the ability to customize the system’s visitor screens and badge layouts according to the individual needs of the installation.
The most complete, end-to-end solution to the Total Security Knowledge Management needs of organizations is here! The B.A.S.I.S.® Multimedia Access Control & Alarm Monitoring System provides maximum protection, optimum flexibility, simple operation, and reduced costs in a single software solution. B.A.S.I.S.® is unique and clearly superior to any other security system available on the market today. B.A.S.I.S.® uses the most advanced technologies available, including modern object-oriented software, an advanced client/server database architecture and Microsoft’s multi-tasking, multi-threading 32-bit Windows NT operating system. Solid technology, along with a user friendly graphical interface, makes B.A.S.I.S.® the most powerful, easiest-to-use integrated security management system on the market. Just look at what’s at your fingertips with this state-of-the-art security system:

**OPEN ARCHITECTURE DESIGN**

B.A.S.I.S.® OpenAccess™ architecture design means universal support and unlimited future expansion. Open architecture design provides support for all industry standard databases, video recorders and cameras, networks, and Windows® 98, NT, XP, 2000, 2003 compatible ID card printers. B.A.S.I.S.® supports most industry standard network protocols and topologies, including TCP/IP.

**UNLIMITED HANDLING CAPACITY**

B.A.S.I.S.® provides an unlimited amount of expansion with a single seamlessly integrated software solution. B.A.S.I.S.® is designed to work with any organization, from an entry level two reader system to the largest corporation with numerous facilities and thousands of card readers spread across the world. The system will grow as your company does. Additional software and hardware may be added at any time. B.A.S.I.S.® provides support for an unlimited number of card readers, alarm points, and cardholders.

**DATABASE SEGMENTATION PROVIDES INCREASED FLEXIBILITY**

B.A.S.I.S.® provides optimum flexibility by allowing system administrators to partition the system database into multiple segments for restrictive viewing and control. The database can be segmented so that system operators can view and control only cardholders, card formats and devices that fall within their authorized segment. This is ideal for large corporate or campus environments where multiple departments wish to have individual control.

**CUSTOMIZABLE VOICE ALARMS WITH MULTIMEDIA INSTRUCTIONS**

B.A.S.I.S.® uses cutting edge multimedia technology for voice recording, storage, playback, and transmission that allows operators to hear customized voice recordings when an alarm is activated. When an alarm activates, a voice recording will play, telling exactly where and what type of security breach has occurred. Even if users are working on other tasks in other applications, they will be notified when alarms occur.
ACCESS CONTROL & ALARM MONITORING SYSTEM

ALARM BASED AUTOMATIC PAGING AND E-MAIL
B.A.S.I.S.® provides integration with paging and e-mail systems to allow pages or e-mails to be automatically sent when an alarm occurs. For example, when a door is forced open, an alarm could be sent to a guard in the field via pager and an administrator in another city could receive an e-mail, all in real-time and without operator intervention.

GRAPHICAL MAPS
The display of detailed floor plans of protected zones provides increased security, showing both the rooms and their alarm points. Maps of alarm zones appear on screen when alarms are activated, showing the location and nature of the security breach. B.A.S.I.S.® supports all industry standard graphic formats, including Autocad DXF files!

HOT STANDBY, FAULT TOLERANT SERVER ARCHITECTURE
B.A.S.I.S.® supports a fault tolerant server and redundant database architecture to allow for normal operations to occur in the event that the database server fails. In the event of a server failure, B.A.S.I.S.® will automatically switch over to a backup server. No operator intervention is required.

ADVANTAGES
- Microsoft Windows® 98, NT, XP, 2000, 2003 - based
- Open Architecture Design
- Advanced Client/Server Architecture
- Unlimted Handling Capacity
- Utilizes MS SQL Server, Oracle Server or MSDE Access Supports most Industry Standard ID Card and Reader Technologies
- Fault Tolerant Intelligent Response System
- Multiple Time Zones
- User Friendly GUI
- Advanced, Powerful Report Generator Password Protection
- Simple Operation, Maximum Security
- Scaleable Symmetric Processing Architecture
- Distributed, Segmented Architecture
- Integration into a Total Security Knowledge Management Solution

Additional Features
- Global I/O Linkage
- Live Video Verification of Cardholders
- Database Segmentation
- Automatic Alarm Based Paging and E-Mail
- Customizable Voice Alarms
- Custom Report Writer
- Graphical Map Support
- Fault Tolerant Database Server
- User-Definable Fields
- Advanced Anti-Passback Capabilities
- Elevator Control
- Remote Dial-up
- Temporary Access Levels
- CCTV Interface Module
- Import/Export Utility

Complete integration capabilities with:
- ID Management
- Digital Video
- Asset Management
- Internet-based Visitor Management
- Paging Systems
- E-mail Systems

ANSI TEST
3.1 ANSI/BHMA Test #5 - Grade Level Indication Test Matrix ID Numbers:
Mechanical Test Matrix: 6
ANSI/BHMA A156.13 test Matrix: 2
Reference Document: ANSI/BHMA A156.13 Paragraph, 1.4.2
The ID Management System is a state-of-the-art personnel identification and badging system. The ID management system is the most flexible, feature-rich system on the market. It can be used as a stand-alone system or integrated with access control systems. The ID management system produces the highest resolution pictures, supports all industry capabilities. the ID management system even has in-line encoding, making it the most complete, end-to-end ID management solution to the security and facility management needs of organizations. Advanced software, hardware, card technology, and expandable open architecture design guarantee that our customers will be satisfied for years to come.

Supports industry standard ID card, reader, and printer technologies
Supports all industry standard ID card and reader technologies, including Wiegand and Proximity. It also supports both bar code and magnetic stripe encoding for advanced security. One system can produce high-quality, true color PVC badges with magnetic stripes, and color laser printed badges for temporary use. Best Access Systems ID system supports Windows® 98, NT, XP, 2000, 2003.

Advanced single pass printing to multiple printers
The ID management system saves time by allowing multiple types of badges to be printed simultaneously at multiple printers. This allows you to print large quantities of badges with different badge types at the same time. The ID system knows where to send each badge type. All you have to do is choose the print option and ID system does the rest.

Advanced Image Processing Capabilities
The ID management system provides advanced, powerful image processing capabilities. System operators can modify a captured image to add intensity to a photo, adjust its hue, or even rotate the image 180-degrees. The ID management system supports ghosting and chromakey capabilities for customers with higher security needs.

High speed enrollment process
The ID Management System is designed to operate quickly and effectively in conditions where large numbers of badges need to be produced and printed. By not requiring an operator to key in every piece of information when badges are created, large numbers of employees can be quickly processed. The operator can later return to the associated record and key in the remaining data. Because you preview the photo on your monitor, you capture exactly the image you’re looking for.

Multiple photo capture input sources
The ID Management System provides system operators with numerous methods of capturing a cardholder’s photo. Photos can be captured with any RGB, Composite, or S-Video camera. Photos may also be brought into the system through any industry standard scanner. They can even be imported from any industry standard photo file format!

ID Management System
create professional, high quality badge layouts right from your own PC! It allows you to create these professional badge layouts in a matter of a few hours, complete with text, shapes, colors, graphics, photos, logos, and bar-codes. BadgeDesigner also combines its power with a user friendly interface making it a complete and easy-to-use badge layout design module.

Additional Features
• Signature Capture
• Edge to Edge Printing
• Double Sided Printing
INTEGRATED SYSTEM CONTROLLER OVERVIEW

Best Access Systems Intelligent System Controller (ISC) serves as the predominant access control engine. The ISC provides power, performance, and flexibility for the most demanding applications. Multiple combinations of Input Control Modules, Output Control Modules, and Card Reader Interface Modules can be connected. The ISC can communicate upstream at 38.4 Kbps via RS232/RS-485 multi-dropped, modem dial-up communications, Ethernet TCP/IP or Token Ring networks.

BAS-500 FEATURES AND FUNCTIONALITY

- Host Communications - 38.4 Kbps direct wire (RS232/RS-485 multi-dropped), Ethernet TCP/IP, Token Ring or dial-up communications
- 12 VAC or 12 VDC input power
- Supports up to 6 different card formats
- Enhanced Anti-passback capabilities
- Flash memory for real-time program updates
- Lithium battery back-up
- Up to 255 access levels
- 255 Holidays with grouping
- 255 Time zones, each with 6 time intervals
- Elevator Control, support for 64 floors
- 512 KB on-board memory (13,000 cardholders; 25,000 events)
- Up to 32 readers or 16 downstream devices
- Alarm Masking
- Individual extended held open and strike times (ADA required)
- Up to 6-digit pin codes
- Downstream serial RS232/RS-485 device support
- Status LEDs for heartbeat, upstream and downstream communication
- Two dedicated inputs for Tamper and Power Failure Status
- UL 294 recognized & CE approved
**OPTIONS AND ORDERING**

<table>
<thead>
<tr>
<th>ISC Options</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS-500</td>
<td>Standard onboard memory is 512KB</td>
</tr>
</tbody>
</table>

**Host Communications**

<table>
<thead>
<tr>
<th>BAS-ETHLAN</th>
<th>Micro Serial Server, flash ROM, DB25 serial port RJ45 (10/100baseT) Ethernet interface, diagnostic LEDs, external power 120 VAC, with cable</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS-COBOX-TR201</td>
<td>Micro Serial Server for Token Ring applications, flash ROM, DB25, DB9 serial port RJ45 (4/16 Mbit ring speed) diagnostic LEDs, external power 120 VAC</td>
</tr>
</tbody>
</table>

**Dial-Up Modem**

| BAS - 56 KEXT | 56K External Modem, with cable |

**Power Supplies and Enclosures**

<table>
<thead>
<tr>
<th>BAS-3PMCTX</th>
<th>Power Supply - 12 VDC or 24 VDC, 2.5A output (switch selectable), 120 VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply -12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

The controller is intended for use in low voltage, class 2 circuits only.

**Dimensions:** 6 in. (152mm) W x 5 in. (127mm) L x 1 in. (25mm) H  
**Weight:** 8 oz. (230g)  
**Operating Temperature**  
**Range:** 0° to 70° C, operating (-55° to 85° C, storage)  
**Humidity Range:** 0% to 95%, non-condensing  
**Memory and Clock Backup:** 3 Volt lithium, type BR2325  
**Power Requirements:** AC input: 12VAC+/- 15%, 400mA RMS  
DC input: 12VDC+/- 10%, 250mA
**BAS-1000 FEATURES & FUNCTIONALITY**

- Host Communications - 38.4 Kbps direct wire (RS232/RS-485 multi-dropped), Ethernet TCP/IP, Token Ring or dial-up communications
- 12 VAC or 12 VDC input power
- Supports up to 6 different card formats
- Enhanced Anti-passback capabilities
- Flash memory for real-time program updates
- Lithium battery back-up
- Up to 32,000 access levels permissions
- 255 Holidays with grouping
- 255 Time zones, each with 6 time intervals
- Elevator Control, support for 64 floors
- 512 KB on-board memory (13,000 cardholders; 25,000 events)
- Up to 16 downstream devices
- Alarm Masking
- Individual extended held open and strike times (ADA required)
- Up to 6-digit pin codes
- Downstream serial RS232/RS-485 device support
- Status LEDs for heartbeat, upstream and downstream communication
- Two dedicated inputs for Tamper and Power Failure Status
- UL 294 recognized & CE approved

**BAS–2000 FEATURES & FUNCTIONALITY**

- Host Dual Path Communication Enabled—either 115.2 Kbps direct wire (RS-232/RS-485 multi-dropped), Ethernet TCP/IP, token Ring, dial-up communications or a combination of any two of these technologies
- 1 MB on board memory expandable to 8 MB (up to 350,000 cardholders and 1 million events stored online)
- 12 VAC or 12 VDC input power
- Enhanced Anti-passback capabilities
- Flash memory for real-time program updates
- Lithium battery back-up
- Up to 32,000 access levels permissions
- 255 Holidays with grouping
- 255 Time zones, each with 6 time intervals
- Elevator Control, support for 64 floors
- Alarm Masking
- Individual extended held open and strike times (ADA required)
- Up to 6-digit user pin codes
- Downstream serial RS232/RS-485 device
- Status LEDs for heartbeat, upstream and downstream communication
- Two dedicated inputs for Tamper and Power Failure Status
The controller is intended for use in low voltage, class 2 circuits only.

**Dimensions:** 8 in. (203 mm) L x 6 in. (152 mm) W x 1 in. (25 mm) H  
**Weight:** 10 oz. (284g)  
**Operating Temperature Range:** 0° to 70° C, operating (-55° to 85° C, storage)  
**Humidity Range:** 0% to 95%, non-condensing  
**Memory and Clock Backup:** 3 Volt lithium, type BR2325  
**Power Requirements:** AC input: 12VAC+/− 15%, 600mA  
**RMS DC input:** 12VDC+/− 15%, 350mA

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### SPECIFICATIONS

**ISC Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS-1000</td>
<td>Standard onboard memory is 1MB</td>
</tr>
</tbody>
</table>

**Memory Options**

<table>
<thead>
<tr>
<th>Option</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>BAS-1001MK</td>
<td>1MB Memory Expansion Kit (Includes 1MB memory and expansion board)</td>
</tr>
<tr>
<td>BAS-1003MK</td>
<td>3MB Memory Expansion Kit (Includes 3MB memory and expansion board)</td>
</tr>
<tr>
<td>BAS-1001M</td>
<td>Additional Memory for any LNL-100XMK kit (Two 512K chips, 1MB total memory)</td>
</tr>
</tbody>
</table>

**Host Communications**

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<td>Micro Serial Server, flash ROM, DB25 serial port RJ45 (10/100baseT) Ethernet interface, diagnostic LED’s, external power 120 VAC with cables</td>
</tr>
<tr>
<td>BAS-COBOX-TR201</td>
<td>Micro Serial Server for Token Ring applications, flash ROM, DB25, DB9 serial port RJ45 (4/16 Mbit ring speed) diagnostic LEDs, external power 120 VAC</td>
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**Dial-Up Modem**

<table>
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<tr>
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<tbody>
<tr>
<td>BAS-56KEXT</td>
<td>56K External Modem with cables</td>
</tr>
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</table>

**Power Supplies and Enclosures**

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<tr>
<td>BAS-3PMCTX</td>
<td>Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply - 12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>
INPUT CONTROL MODULE OVERVIEW

The Input Control Module (ICM) provides the access control system with high-speed acknowledgement of critical alarm points in monitored areas. The ICM communicates directly with the Intelligent System Controller (ISC) either by 2-wire or 4-wire RS-485 communication. The ICM has 16 configurable input control points and 2 output control relays. It supports normally open, normally closed, supervised and non-supervised circuits.

The input circuits are scanned using an analog to digital converter. The digitized input status signal is software monitored and controlled, so that each input point can be programmed as a supervised or non-supervised alarm point.

The output relays can also be configured for fail-safe or fail-secure operation. Each relay supports “On,” “Off,” and “Pulse” B.A.S.I.S.® software commands.

ICM FEATURES AND FUNCTIONALITY

• Grade B, A, and AA Line Supervision
• 12VAC or 12VDC power supply
• RS-485 communications, multi-dropped (2-wire or 4-wire)
• 16 programmable supervised or non-supervised input contacts
• Two Form-C 5 A, 30 VDC contacts for load switching
• Two dedicated inputs for tamper and power failure status
• Elevator Control, support for 64 floors
• Status LED for host communication and heartbeat
• UL 294 recognized & CE approved
ICM MECHANICAL AND ARCHITECTURAL
CHARACTERISTICS AND WIRING

REQUIREMENTS

The acceptable power supply is either 12VDC or 12VAC. Locate the power source as close as possible to the BAS-1100. Use a minimum of 18 AWG (1 twisted pair) wiring for the power supply.

COMMUNICATIONS

Communication with the Intelligent System Controller is via a 2-wire or 4-wire RS-485 interface. The interface allows multi-drop communication on a single ISC port, up to 4000 feet per port. Use twisted pair(s) with a minimum of 24 AWG and a shield for communication. The 2-wire or 4-wire communications with end-of-line termination are jumper-selectable.

- Recommended cabling for RS-485 (2-wire) communication is Belden 9841 or equivalent.
- Recommended cabling for RS-485 (4-wire) communication is Belden 9842 or equivalent.

Sixteen (16) software configurable alarm inputs can be used for alarm device monitoring. Each of these inputs can, via the Best Access Systems’ control software, be configured as either N/O (normally open) or N/C (normally closed) in combination with either supervised or non-supervised wiring. For supervised inputs, end-of-line (EOL) resistors are required and must be 1000 ohm, 1% tolerance.

ALARM INPUTS

Two non-supervised inputs are for cabinet tamper and power fault monitoring. Normally, the contacts are closed. The inputs must be shorted if they are not used.

ALARM OUTPUTS

Two Form-C relay contacts, 5 A 30VDC or 125VAC, resistive.

OPTIONS AND ORDERING

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<td>BAS-3PMCTX</td>
<td>Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply -12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

SPECIFICATIONS

The controller is intended for use in low voltage, class 2 circuits only.

- **Dimensions**: 8 in. (203 mm) L x 6 in. (152 mm) W x 1 in. (25 mm) H
- **Weight**: 10 oz. (284g)
- **Operating Temperature Range**: 0° to 70° C, operating (-55° to 85° C, storage)
- **Humidity Range**: 0% to 95%, non-condensing
- **Memory and Clock Backup**: 3 Volt lithium, type BR2325
- **Power Requirements**: AC input: 12VAC +/- 15%, 350mA RMS
- **DC input**: 12VDC +/- 15%, 500mA
OUTPUT CONTROL MODULE OVERVIEW

The Output Control Module (OCM) communicates directly with the Intelligent System Controller (ISC) either by 2-wire RS-485 or 4-wire RS-485 communication. Each OCM is an individually addressed device, and counts as a single device on all Intelligent System Controllers.

The OCM, like other Lenel hardware products, can be operated by either 12VAC or 12VDC power. Each OCM includes dedicated tamper and power failure input contacts.

The OCM has 16 programmable output relays that can be configured for fail-safe or fail-secure operation. Each relay supports “On,” “Off,” and “Pulse” B.A.S.I.S. software commands.

OCM FEATURES AND FUNCTIONALITY

- 16 Form-C 5A, 30 VDC contacts for load switching
- 12VAC or 12VDC power supply
- Two dedicated digital inputs for tamper and power failure status
- RS-485 communications, multi-dropped (2-wire or 4-wire RS-485)
- Up to 16 output panels per Intelligent System Controller
- Status LED’s for communication to the host, heartbeat and relay status
- Elevator Control, support for 128 floors
- UL 294 recognized & CE approved

BAS-1200
The acceptable power supply is either 12VDC or 12VAC. Locate the power source as close as possible to the BAS-1200. Use a minimum of 18 AWG (1 twisted pair) wiring for the power supply.

Communication to the Intelligent System Controller is via a 2-wire or 4-wire RS-485 interface. The interface allows multi-drop communication on a single ISC port, up to 4000 feet per port. Use twisted pair(s) with a minimum of 24 AWG and a shield for communication. The 2-wire or 4-wire communications with end-of-line termination are jumper-selectable.

- Recommended cabling for RS-485 (2-wire) communication is Belden 9841 or equivalent.
- Recommended cabling for RS-485 (4-wire) communication is Belden 9842 or equivalent.
- Recommended plenum cabling for RS-485 communication is Belden 88102 or equivalent.

Two non-supervised inputs are for cabinet tamper and power fault monitoring. Normally, the contacts are closed. The inputs must be shorted if they are not used.

Sixteen Form-C relay contacts, 5 A 30VDC or 125VAC, resistive.

To minimize premature failure of the contact and to increase system reliability, contact protection circuits MUST BE USED. The protection circuits must be located as close to the load as possible (within 12 inches, or 30 cm), as circuit effectiveness decreases at greater distances.

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<th>Power Supplies and Enclosures</th>
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<tr>
<td>BAS-3PMCTX</td>
<td>Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply -12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame, transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

The controller is intended for use in low voltage, class 2 circuits only.

Dimensions: 8 in. (203 mm) L x 6 in. (152 mm) W x 1 in. (25 mm) H
Weight: 16 oz. (454g)
Operating Temperature Range: 0° to 70° C, operating (-55° to 85° C, storage)
Humidity Range: 0% to 95%, non-condensing
Power Requirements: AC input: 12VAC+/− 15%, 600mA RMS
DC input: 12VDC+/− 15%, 500mA
SINGLE READER INTERFACE OVERVIEW

Best Access Systems offers a SINGLE READER INTERFACE (SRI) module for business access control solutions. Access control card readers, keypads, or readers with keypads that use standard Wiegand Data1/Data0 or Clock/Data communications are supported. Lock, unlock, and facility code offline access modes are supported on all readers connected to the SRI. Each SRI supports up to eight different card formats as well as issue codes for both magnetic and Wiegand card formats.

The SRI provides a vital link between the Intelligent System Controller (ISC) and the card reader attached to the interface. As many as 32 SRI modules can be multi-dropped using RS-485 2-wire communication up to 4,000 feet per port away from the ISC. Each SRI module is individually addressed for increased reporting capabilities with B.A.S.I.S.® Access Control software applications. The SRI includes two inputs, one input is dedicated to a normally closed door position circuit, the other input is dedicated to a normally open REX circuit. Both circuits can be supervised or non-supervised. Two output relays support fail-safe or fail-secure operation. One output is dedicated for lock control. The other output is dedicated for auxiliary use.

SRI FEATURES AND FUNCTIONALITY

- 12 VDC power supply
- Reader communications (Clock/Data or Wiegand Data1/Data0)
- Two Form-C relay outputs (5A Door Strike and 1A Aux relays)
- Up to 8 different card formats
- Issue code support for magnetic and Wiegand formats
- Door contact normally closed circuit, Supervised or Non-supervised
- REX push-button monitor normally open circuit, Supervised or Non-supervised
- Strike Control output
- Bicolor status LED support
- Beeper control
- Plastic mounting channel
- Support for offline reader access mode
- UL 294 recognized & CE approved
- Elevator Control, support for 64 floors
The hardware is configured using a series of several jumpers. The acceptable power supply is 12 VDC. Locate the power source as close as possible to the BAS-1300. Use a minimum of 18 AWG (1 twisted pair) wiring for the power supply.

Communication to the Intelligent System Controller is via an RS-485 (2-wire) interface. The ISC allows multi-drop communication on a single port up to 4000 feet each. Use twisted pair(s) with a minimum of 24 AWG and a shield for the communications. The 2-wire communications with end-of-line termination are jumper-selectable.

- Recommended cabling for RS-485 (2-wire) communications is Belden 9841 or equivalent.
- Recommended plenum cabling for RS-485 communications is Belden 88102 or equivalent.

Two supervised inputs are normally used for REX (Request to Exit) and door status. Normally, the door contact is closed and REX is open. The inputs must be shorted if they are not used.

Two Form-C relay contacts, one (1) 5 A at 30 VDC normally for door contact and one (1) 1 A at 30 VDC auxiliary relay.

To minimize premature failure of the contact and to increase system reliability, contact protection circuits MUST BE USED. The protection circuits must be located as close to the load as possible (within 12 inches, or 30 cm), as circuit effectiveness decreases at greater distances.

<table>
<thead>
<tr>
<th>Power Supplies and Enclosures</th>
<th>Description</th>
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<tbody>
<tr>
<td>BAS-3PMCTX</td>
<td>Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply - 12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

The controller is intended for use in low voltage, class 2 circuits only.

**Dimensions:** 3.25”(83mm)L x 2.9”(74mm)W x 1.4”(36mm)H  
**Weight:** 4 oz. (120g)  
**Operating Temperature Range:** 0° to +70° C (32° to 158° F)  
**Humidity Range:** 0% to 95%, non-condensing  
**Power Requirements:** DC input: 12VDC +/- 15%, 125mA Power  
**Reader TTL:** DC output: 12 VDC 80mA Max
DUAL READER INTERFACE OVERVIEW

Best Access Systems International offers a DUAL READER INTERFACE (DRI) module for business access control solutions. Up to 64 access control card readers, keypads, or readers with keypads that use standard Wiegand Data1/Data0 or Clock/Data communications are supported. Lock, unlock, and facility code offline access modes are supported on all readers connected to the DRI. Each DRI supports up to eight different card formats as well as issue codes for both magnetic and Wiegand card formats.

The DRI provides a vital link between the Intelligent System Controller (ISC) and the card reader attached to the interface. As many as 32 DRI modules can be multi-dropped using RS-485 2-wire or 4-wire communication up to 4,000 feet per port away from the ISC. Each DRI module is individually addressed for increased reporting capabilities with BEST access control software applications. The DRI includes (2) door position, (2) request-to-exit, (4) auxiliary inputs. Auxiliary inputs support normally open and normally closed circuits. All inputs support supervised and nonsupervised circuits. In addition, (2) lock control relays and (4) auxiliary relays support fail-safe or fail-secure operation.

DRI FEATURES AND FUNCTIONALITY

- 12 VAC or 12 VDC power supply
- Reader communications (Clock/Data or Wiegand Data 1/Data 0)
- Six Form-C 5 A @ 30 VDC relay outputs
- Up to 8 different card formats
- Issue code support for Magnetic and Wiegand formats
- Door contact supervision, normally closed circuit
- REX push-button monitor, normally open circuit
- Strike Control output
- Bi-color status LED support
- Beeper control
- Dedicated tamper and power failure circuits
- Support for offline reader access mode
- UL 294 recognized & CE approved
The controller is intended for use in low voltage, class 2 circuits only. The acceptable power supply is either 12 VDC or 12 VAC. Locate the power source as close as possible to the BAS-1320. Use a minimum of 18 AWG (1 twisted pair) wiring for the power supply.

**COMMUNICATIONS**

Communication to the Intelligent System Controller is via a 2-wire or 4-wire RS-485 interface. The interface allows multi-drop communication on a single ISC port up to 4,000 feet each. Use twisted pair(s) with a minimum of 24 AWG and a shield for the communications. The 2-wire or 4-wire communications with end-of-line termination are jumper-selectable.

- Recommended cabling for RS-485 (2-wire) communications is Belden 9841 or equivalent.
- Recommended cabling for RS-485 (4-wire) communications is Belden 9842 or equivalent.
- Recommended plenum cabling for RS-485 communications is Belden 88102 or equivalent.

**ALARM INPUTS**

REX (Request to Exit) are available for all reader, door status, and two programmable auxiliary inputs. Two non-supervised inputs are for cabinet tamper and power failure monitoring. The door contact is closed and REX is open. Any unused normally closed inputs must be shorted.

**ALARM OUTPUTS**

Six Form-C relay contacts, rated at 5 A at 30 VDC, resistive, normally used for door contacts or four auxiliary output relays.

**NOTE**

To minimize premature failure of the contact and to increase system reliability, contact protection circuits MUST BE USED. The protection circuits must be located as close to the load as possible (within 12 inches, or 30 cm), as circuit effectiveness decreases at greater distances.

<table>
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<th>Power Supplies and Enclosures</th>
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<tr>
<td>BAS-3PMCTX</td>
<td>2.5 A Power Supply - 12 VDC output (switch selectable)</td>
</tr>
<tr>
<td></td>
<td>2.5 A continuous supply current with enclosure, lock and open frame transformer and UPS battery charging harness (Battery optional ABT-12)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply-12 VDC or 24 VDC 4 A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (Battery optional ABT-12)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>12 Volt Battery Kit, 12 VDC, 12 AH battery</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

The controller is intended for use in low voltage, class 2 circuits only.

- **Dimensions:** 8"L x 6"W x 1"H (203L x 152W x 25H mm)
- **Weight:** 16 oz. (454g)
- **Operating Temperature Range:** 0° to +70° C (32° to 158° F)
- **Humidity Range:** 0% to 95%, non-condensing
- **Power Requirements:** AC input: 12VAC+/− 15%, 600mA RMS DC input: 12VDC+/− 15%, 450mA
**MAGNETIC CARD READERS OVERVIEW**

Best Access Systems Magnetic Card Access Readers are durable, dependable, convenient and competitively priced. The Magnetic Card Access Readers are available in both 12VDC and optional 5VDC models. The readers have a fully weatherized metal casing shell, which provides strength and durability. The readers are first treated with an anti-corrosion film and then coated with a tough, abrasion resistant, beige or black textured finish that complements any interior or exterior decor. The readers accept low and high coercivity magnetic stripe cards. Track 2 magnetic readers are standard, but optional Track 1 or Track 3 readers are available.

The reader communicates to the Intelligent System Controller (ISC) through one of two reader interface modules. The single (BAS-1300) or dual (BAS-1320) reader interface module interprets Wiegand communication (Data 1/Data 0 or Clock and Data) from the reader and sends the signal back to the ISC via RS-485 communication. The reader can be located up to 500 feet away from the reader interface module.

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**FEATURES AND FUNCTIONALITY**

- 12VDC power supply (optional 5VDC available)
- Bi-directional Card Swipe
- 600,000 card pass read head (optional 1 million pass head)
- Choice of two attractive weatherproof finishes (black & beige)
- Single bicolored LED for reader status
- Audible indicator beeper contacts
- Strike controlled by reader interface
- Dip switch selectable data outputs
- Maximum 50 feet distance from reader interface module
- RJ-45 jack for quick installation
- UL 294 recognized & CE approved

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**BAS-2005W**
BAS-2005W-5
Magnetic Reader, 12 VDC, track 2 weatherized (Without keypad)

Reader Part #-OT Tamper Contact—for both direct and data outputs. Must order with reader.

Reader Part #-OH Extended Wear Read Head (over 1 million passes). Must order with reader.

BAS-WP10
Wall Plate cover for Single Gang electric box

BAS-RCC
Replacement Reader Connector Cable (Lot of 5)

BAS-SS
Security Screw (Lot of 10)

BAS-SSK
Security Screw Key for A-SS (Lot of 5)

BAS-WS10
Single Reader Weather Shield for LNL-2005W, 2010W and 2020W

BAS-3PMCTX
Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)

BAS-AL400ULX
UL Listed Supply -12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)

ABT-12
Battery Kit - 12 VDC, 12 AH battery (PS-12120)

BAS-1000
Intelligent System Controller

RS-485
Multi-drop
2 or 4 wire

Downstream Communications
four 2-wire ports
Two 4-wire ports
Combination 2 and 4 wire ports

BAS-1300
Up to 32 Single Reader Interface Modules
BAS-1300 (32 Readers)

BAS-1320
Up to 32 Dual Reader Interface Modules
BAS-1320 (64 Readers)

SPECIFICATIONS
The reader is intended for use in low voltage, class 2 circuits only.

Dimensions: 1.95 in. (50mm) W x 1.30 in. (33mm) H x 5.50 in. (140mm) L
Weight: 10 oz. (284g)
Operating Temperature Range: -40° to +75° C (storage: -40° to 167° F)
Humidity Range: 0% to 95% non-condensing, standard 100%
Power Requirements: DC input, 12 Volt Model: 12 VDC (10.2 to 13.8 VDC) (optional)
DC input, 5 Volt Model: 5.8 VDC (4.9 to 6.4 VDC)
MAGNETIC CARD READERS OVERVIEW

Best Access Systems Magnetic Card Access Readers are durable, dependable, convenient and competitively priced. The Magnetic Card Access Readers are available in both 12VDC and optional 5VDC models. The readers have a fully weatherized metal casing shell, which provides strength and durability. The readers are first treated with an anti-corrosion film and then coated with a tough, abrasion resistant, beige or black textured finish that complements any interior or exterior decor. The readers accept low and high coercivity magnetic stripe cards. Track 2 magnetic readers are standard, but optional Track 1 or Track 3 readers are available.

The reader communicates to the Intelligent System Controller (ISC) through one of two reader interface modules. The single (BAS-1300) or dual (BAS-1320) reader interface module interprets Wiegand communication (Data 1/Data 0 or Clock and Data) from the reader and sends the signal back to the ISC via RS-485 communication. The reader can be located up to 50 feet away from the reader interface module.

FEATURES AND FUNCTIONALITY

- 12VDC power supply (optional 5VDC available)
- Bi-directional Card Swipe
- 600,000 card pass read head (optional 1 million pass head)
- Choice of two attractive weatherproof finishes (black & beige)
- Two single-color LEDs for reader status
- Audible indicator beeper contacts
- Strike controlled by reader interface
- Dip switch selectable data outputs
- Maximum 50 feet distance from reader interface module
- Optional tamper switch
- RJ-45 jack for quick installation
- 12-position keypad
- UL 294 recognized & CE approved

BAS-2010W  BAS-2020W
**Reader Options**

<table>
<thead>
<tr>
<th>Reader Options</th>
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</tr>
</thead>
<tbody>
<tr>
<td>BAS-2010W</td>
<td>Magnetic Reader, 12 VDC, track 2 weatherized (Without keypad)</td>
</tr>
<tr>
<td>BAS-2020W</td>
<td>Magnetic Reader, 12 VDC, track 2 weatherized with keypad</td>
</tr>
<tr>
<td>Reader Part #-OT</td>
<td>Tamper Contact-for both direct and data outputs. Must order with reader.</td>
</tr>
<tr>
<td>Reader Part #-OH</td>
<td>Extended Wear Read Head (over 1 million passes). Must order with reader.</td>
</tr>
<tr>
<td>BAS-WP10</td>
<td>Wall Plate cover for Single Gang electric box</td>
</tr>
<tr>
<td>BAS-RCC</td>
<td>Replacement Reader Connector Cable (Lot of 5)</td>
</tr>
<tr>
<td>BAS-SS</td>
<td>Security Screw (Lot of 10)</td>
</tr>
<tr>
<td>BAS-SSK</td>
<td>Security Screw Key for A-SS (Lot of 5)</td>
</tr>
</tbody>
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**Power Supplies and Enclosures**

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<td>BAS-3PMCTX</td>
<td>Power Supply - 12VDC or 24VDC, 2.5A output (switch selectable), 120VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply - 12VDC or 24VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

The reader is intended for use in low voltage, class 2 circuits only.

**Dimensions:** 1.95 in. (50mm) W x 1.30 in. (33mm) H x 5.50 in. (140mm) L  
**Weight:** 10 oz. (284g)  
**Operating Temperature Range:** -40° to +75° C (storage: -40° to 167° F)  
**Humidity Range:** 0% to 95% non-condensing, standard 100%  
**Power Requirements:** DC input, 12 Volt Model: 12 VDC (10.2 to 13.8 VDC) (optional)  
DC input, 5 Volt Model: 5.8 VDC (4.9 to 6.4 VDC)
STAR MULTIPLEXER OVERVIEW
Best Access Systems’ Star Multiplexer was designed to implement star topology on a single downstream port (ports 2 through 5) of any of BEST’s Intelligent System Controllers, to eight RS-485 (2-wire) ports or four RS-485 (4-wire) channels. The Star Multiplexer requires 12 VDC for power. It allows conversion of communication protocol, and provides connection with alternate communication devices to extend effective distance. The master or host interface can be either RS-232 or RS-485 (2-wire) communication. The Multiplexer interfaces upstream with the BEST Intelligence System Controller, and downstream with one or many BEST RS-485 products (BAS-1100 Input Control Module, BAS-1200 Output Control Module, BAS-1300 Single Reader Interface Module, BAS-1320 Dual Reader Interface Module) on each downstream port (ports 2-9). A maximum of eight (8) devices are allowed per port.

FEATURES AND FUNCTIONALITY
- Host Communications - 38.4 Kbps direct wire (RS-232/485 multi-dropped)
- 12 VDC input power
- Downstream serial RS-232 device support with BAS-4000 option
- Status LEDs for heartbeat, upstream and downstream communication
- Support for either 2-wire or 4-wire RS-485 topologies
- RS-485 termination is jumper selectable
- Designed for retrofit and star wiring configurations

BAS-8000
The BAS-8000 is intended for use in low voltage, class 2 circuits only.

**Dimensions:**
- Dimensions: 6 in. (152 mm) L x 5 in. (127 mm) W x 1 in. (25 mm) H
- Weight: 4 oz. (180 gm)

**Humidity Range:**
- Humidity Range: 0% to 95%, non-condensing

**Power Requirements:**
- Power Requirements: DC input: 12 VDC +/- 15%, 250mA

**Operating Temperature Range:**
- Nominal Operating Temperature Range 0° to +70° C (storage: -55° to +85° C)

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**MECHANICAL AND ARCHITECTURAL CHARACTERISTICS AND WIRING**

**MECHANICAL AND ARCHITECTURAL CHARACTERISTICS AND WIRING**

The hardware is configured using several jumpers and a set of four DIP switches. The acceptable power supply is either 12 VDC. Locate the power source as close as possible to the BAS-8000. Use a minimum of 18 AWG (1 twisted pair) wiring for the power supply.

**COMMUNICATIONS**

Communication to the Intelligent System Controller is via 2-wire RS-485 or RS-232 communication. The interface allows multi-drop communication on a single ISC port, up to 1,000 feet each. Use twisted pair(s) with a minimum of 24 AWG and a shield for the communications. The 2-wire or 4-wire communications with end-of-line termination are jumper-selectable.

- Recommended cabling for RS-485 (2-wire) communication is Belden 9841 or equivalent.
- Recommended cabling for RS-485 (4-wire) communication is Belden 9842 or equivalent.
- Recommended plenum cabling for RS-485 communication is Belden 88102 or equivalent.

**OPTIONS AND ORDERING**

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<tr>
<td>BAS-3PMCTX</td>
<td>Power Supply - 12 VDC or 24 VDC, 2.5A output (switch selectable), 120 VAC input, continuous supply current with enclosure lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>BAS-AL400ULX</td>
<td>UL Listed Supply - 12 VDC or 24 VDC 4A output (switch selectable), 120 VAC input, continuous supply current with enclosure, lock and open frame transformer, UPS capable (battery optional)</td>
</tr>
<tr>
<td>ABT-12</td>
<td>Battery Kit - 12 VDC, 12 AH battery (PS-12120)</td>
</tr>
</tbody>
</table>

**SPECIFICATIONS**

The BAS-8000 is intended for use in low voltage, class 2 circuits only.
For more information on BEST's full line of security solutions visit our web site at www.bestaccess.com or call 1-317-849-2250 for the name of the Best Access Systems office nearest you.

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Product Warranty – Best Access Systems warrants that all of its products sold under its trade name "BEST" are free of defects in materials, workmanship and operation, normal wear and tear excepted, for a period of three years from the date of sale to the original purchaser.

Concerning Proper Installation: Installation instructions for any Best Access Systems product should be carefully followed for proper operation of the installed product. If improperly installed, malfunction of the product may result.

Best Access Solutions
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www.bestaccess.com
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